TECHNOLOGY DEPT.

First Copy

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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June Sales Show Closest Demand-Production Ratio On Record for Industry

Domestic Registrations Reveal Total of 201,438 Vehicle Units Sold of Factory Output of 249,462, Balance for Exports; First Half Sales 1,176,657

NEW YORK, July 28.—In connection with the June production figures, revised by the Department of Commerce, which appeared in yesterday's Automotive Daily News, we now have sales figures for that month, with only the state of Wyoming missing. The comparison between production and sales for June is interesting.

The total output of our factories on final revision proved to the 249,462 vehicle units. The total domestic sales for June with only Wyoming missing, were 201,438 units.

Of course, our export shipments and cars built in American plants abroad must be accounted for in the difference between these two figures and the amount of the difference is only about 48,000 cars, trucks, buses and cabs.

It is doubtful if production ever has been held closer to demand in the whole history of the American automotive industry.

Further analysis of the production figures as they were released by the Department of Commerce gives us some interesting comparisons.

Motor vehicle production during the first six months of 1930 and 1931 was given as follows:

1931	Number	Pass. Cars	Trucks	Taxicabs
Jan.	171,848	137,805	33,531	512
Feb.	219,940	179,890	39,521	529
March ..	276,405	230,834	45,161	410
April ...	335,708	285,028	50,015	665
May	315,115	269,080	45,695	340
June ...	249,462	207,798	41,304	360
Total	1,568,478	1,310,435	255,227	2,861

1930	Number	Pass. Cars	Trucks	Taxicabs
Jan.	273,231	232,848	39,406	967
Feb. ...	330,414	279,165	50,398	851
March ..	396,388	329,501	65,466	1,421
April	444,024	372,446	71,092	486
May	420,027	360,928	58,659	440
June	334,506	285,473	48,570	463
Total ..	2,198,580	1,860,361	333,591	4,628

With our June sales figures so nearly complete, Wyoming, as noted, being the only absentee, we can get a pretty accurate idea of how last month compared with other similar periods. The 201,438 vehicle units sold in June, 1931, compare with

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CURTAIL BANNED AREAS TO RELIEVE MUDDLE IN INDIANAPOLIS TRAFFIC

INDIANAPOLIS, IND., July 28.—**The muddled condition prevailing in Indianapolis due to adoption of a new traffic ordinance effecting restricted parking areas is promised some relief by the whittling down of the banned districts, although injunction proceedings instituted against the original measure to prevent police from towing in cars illegally parked are still pending.**

Patterned after traffic codes now in effect in Detroit and Washington, the new Indianapolis ordinance made it illegal to park within a prescribed downtown area between 7 and 9.15 a. m., with the penalty of police tow-in for which a $3 charge was fixed. Soon after the measure took effect a technical error was discovered and enforcement was suspended pending its correction by the city council.

Meanwhile a group of downtown business operators presented organized opposition to the measure, and, after it was again declared in force, as amended, appeal was made to Superior Court for a restraining order against police tow-in activities. The court, while not actually issuing the order, intimated that such steps would be taken unless towing-in of cars was discontinued, and, pending further amendment of

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CANADIAN ASSOCIATION MAY ACT TO PROTEST U. S. TRUCKS' PURCHASE

TORONTO, Ontario, July 28 (UTPS).—**Some action on the part of the Canadian Automobile Manufacturers and Exporters' Association may follow the protests being made by a number of Canadian firms who are indignant because the Toronto Hydro Commission has accepted the low tender of a Chicago firm against fifteen other motor truck manufacturers to supply seven line-repair trucks to the commission.**

The Diamond T Company of Chicago will make the chassis and motors in the United States. The bodies and cabs will be made in Toronto, and the tires will be made by three Canadian rubber companies, and the whole contract, which the Chicago company will in considerable proportion fill with work done in its American plant, will total close to $40,000.

The Canadian Automobile Manufacturers and Exporters Association is at present waiting for replies from its members before deciding on its course of action. J. L. Stewart, manager of the association, however, stated: "We think the

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DETROIT SPECULATES ON WHAT FORD IS PLANNING FOR FALL

Revamping of the Model A, With the New Low-Priced Eight Line Considered Probable

By CHRIS SANSABAUGH

DETROIT, July 28.—If I were a sphinx perhaps I would know more about Henry Ford's plans, for out at Dearborn they certainly answer in the sphinx language when asked about maybe an eight, a rejuvenated model A; about production; if the plants are going to shut down for the summer, or even this or that. Not even a denial—of course, no affirmation.

Putting two and two together, after old Dame Rumor has whispered in your ear, it would seem most logical to place some dependence on the report that Ford is planning first of all to doll up model A. Cross word puzzling and going from left to right, they do say that in the very near future, production on the present series will wind up, to be followed by the introduction of another A, with a larger body, a longer wheel base, more power in the engine and free wheeling. The last named feature is being stressed heavily in our best rumor circles and it sounds plausible.

Latest to bob up is the rumor that Ford is giving particular attention to floating power, following the reported demonstration he had from Walter Chrysler. Elimination of vibration in a four, through rubber mounting of the engine, is something that should be interesting to a man who has turned out fifteen milion of that breed. This rumor has even gone so far as to insist that Ford will take out a license from Chrysler to use this idea, but of course that is only in the gossip stage as yet. If we believe what we hear, all this is going through the works at the present time, with some time in September set for the introduction of the A No. 2.

As for the eight, I stick to my hunch that it will not come along until around show time, and that when it makes its bow, it will be

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MONTH OR MORE DELAY IN OPENING FORD'S NEW BUFFALO PLANT LOOMS

BUFFALO, July 28.—**Enameling ovens of the new plant of Ford Motor Company here are being tested. Full operation of the plant, scheduled for August 1, now appears doubtful. Construction of conveyors and machine installation is still going on. It is believed operations will not start before September 1, or perhaps October 1.**

The parts department has been opened in the new plant and dealers of the Buffalo area are being served from it. The parts department of the old plant may be completely transferred by the first of the month.

Additional acreage at the site of the new plant has been sought by the Ford Motor Company for more than a year. Agents for the company were in Albany last week continuing negotiations. The acreage is under water, the same as that on which the new plant is now located, and it will require dredging to make docks and trackage land.

Reports that Ford was buying a site for dock construction at Conneaut, O., are denied here.

Ford executives here refused to discuss a report that the old Ford

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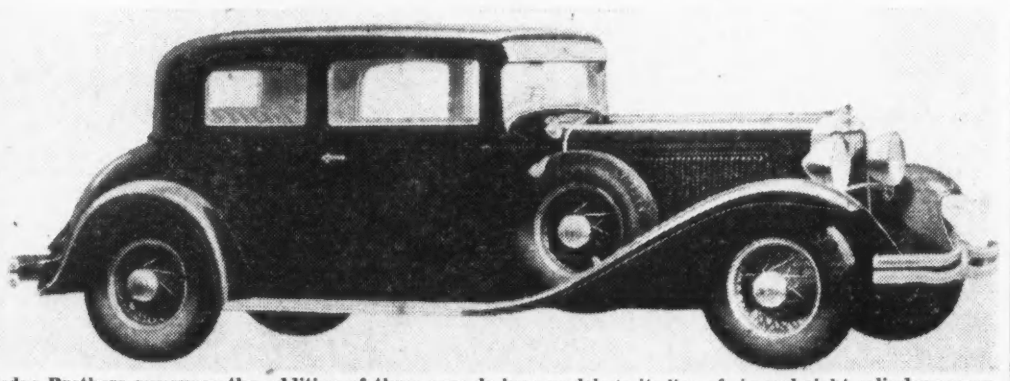
New Dodge '8' Five-Passenger Coupe



Dodge Brothers announce the addition of three new de luxe models to its line of six and eight cylinder passenger cars—a five-passenger coupe on the new Dodge eight chassis (shown above), and two roadsters, available on the new six and new eight chassis. The new coupe has an 84-horsepower engine with the new Dodge positive easy shift transmission. Dash-controlled free wheeling and non-shatterable safety glass are optional.

Late News Flashes

Tulsa, Okla., July 28.—The daily average production of crude oil in the United States in the week ended July 25 was 2,477,261 barrels, an increase of 46,568 barrels over the previous week, according to the Oil and Gas Journal of this city.

* * *

Detroit, July 28.—The Newton Steel Company has announced the removal of its executive and principal sales offices from Youngstown, O., to this city and its general office to Monroe, Mich. The Detroit office will be opened September 1.

* * *

Milwaukee, Wis., July 28.—The A. O. Smith Corporation has declared the regular quarterly dividend of 50 cents on the common and $1.75 on the preferred stock, both payable August 15 to stockholders of record August 1.

* * *

Stamford, Conn., July 28.—The Yale & Towne Manufacturing Co. has declared the regular quarterly dividend of 50 cents, payable October 1 to stock of record September 10.

New Ideas, Picked Personnel Wins Service Profit

See Page 3

New England Car Sales Off 18% in Six Months

NEW YORK, July 28.—Retail sales of new passenger cars in New England in the first six months of this year were 18 per cent. below the corresponding period of 1930, according to the registration returns for the period from five of the six states in that section of the country.

June registrations in the five states amounted to 17,537, as against 20,431 in the corresponding month of last year, off 14 per cent., and comparing with 22,043 in May of this year, a seasonal decline of 20 per cent. In the first half of the year registrations aggregated 93,355, as against 114,067 in the similar period of 1930.

One state, Rhode Island, reported for June a gain over the corresponding month of 1930, registrations amounting to 1,719 this year, as against 1,648 in June, 1930. The seasonal decline from May was 9 per cent. and the falling off for the six-month period was 15 per cent.

Connecticut reported a decline in June of 16 per cent. from the preceding month and a falling off of 23 per cent. from last year. Sales for the first six months were off 24 per cent.

A better tone in passenger car sales prevailed in Massachusetts in June than in earlier months of the year, with registrations of 10,098, as against 11,526 a year ago, off only 12 per cent. The decline for the six months period was 17 per cent. The seasonal falling off from May was 22 per cent.

In New Hampshire the seasonal drop was 18 per cent., while the decline from a year ago was 3.5 per cent. The falling off in the six months period was 1.8 per cent.

Vermont reported a decline in June from May of 31 per cent., and a similar falling off from a year ago. The six months decline was 27.8 per cent.

The following table shows the month-by-month new car sales in the five states for the first six months of this year, as compared with last:

	1931	1930
CONNECTICUT		
January	1,337	1,564
February	1,669	2,389
March	3,300	4,455
April	4,834	6,249
May	4,285	5,813
June	3,594	4,702
Totals	19,019	25,172
MASSACHUSETTS		
January	3,638	3,997
February	4,077	6,282
March	9,616	12,307
April	15,131	17,506
May	13,075	15,431
June	10,098	11,526
Totals	55,635	67,049
NEW HAMPSHIRE		
January	111	127
February	615	963
March	1,121	979
April	1,844	1,971
May	1,599	2,183
June	1,298	1,345
Totals	6,588	6,708
RHODE ISLAND		
January	312	379
February	615	963
March	1,531	2,162
April	1,988	2,175
May	1,887	2,183
June	1,719	1,648
Totals	8,054	9,510
VERMONT		
January	140	222
February	206	313
March	475	679
April	1,213	1,531
May	1,197	1,673
June	828	1,210
Totals	4,059	5,628

SALES IN JUNE SHOW DEMAND-PRODUCTION RATIO CLOSEST EVER

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247,727 in May of this year and with 260,518 in June, 1930. In all these totals the Wyoming figures are missing, but we may note in passing that sales in that state in June, 1930, totaled just 424 vehicle units and that this year the figure will probably not be quite as large, so that our computation is not far off the final figure, which will be ready in a few days.

Our readers will also be interested in the sales figures for six months. During the first six months of 1930 total sales in all forty-eight states and the District of Columbia were 1,653,611 vehicle units. During the same period in 1931, with Wyoming missing, the total is 1,176,657. The decrease under last year's total for the first six months works out at about 28 per cent.

MONTH OR MORE DELAY IN OPENING FORD'S NEW BUFFALO PLANT LOOMS

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plant in Cleveland is to be replaced with a new factory to be built at Fairport harbor on the east end of Cleveland. The Cleveland report is that the land has been bought at Fairport Harbor and plans for the new shops completed.

CURTIS TRUCK TO BEGIN $200,000 FACTORY THIS WEEK IN LOS ANGELES

Los Angeles, July 28.—Construction work is expected to start this week on a $200,000 factory and office building for the Curtis Manufacturing Company, Inc., builder of the Curtis automobile truck, at Brazil Street and San Fernando Road. The company has been operating a plant in Long Beach, and pending completion of the new factory will locate in a temporary Los Angeles plant.

It is expected the new plant will be completed by October 15 and from 300 to 400 men will be employed with an annual pay roll of approximately $1,000,000, according to W. B. Hambly, president.

Plans for the factory provide for a building 575 by 200 feet on a site 932 by 240 feet with a two-story brick office building 100 by 100 feet. The factory unit will be of steel frame, brick walls and saw-tooth roof.

Officials of the company include W. B. Hambly, president; Harry E. Curtis, vice-president; John Betts, vice-president; H. S. Beckman, treasurer, and E. W. Templin, chief engineer.

CURTAIL BANNED AREAS TO RELIEVE MUDDLE IN INDIANAPOLIS TRAFFIC

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the code by the Council, tow-in trucks were again idle.

After various suggestions of amendments the Council made the prohibited parking area apply only to the more congested business district, but the new clause will not become effective for two weeks. Pending its ratification by the mayor, the ordinance remains in its original status, with the threat of judicial restraint holding enforcement at abeyance.

The tow-in clause, while applying only to cars parked in the restricted area, was held by the business group, composed chiefly of restaurant men, as detrimental to their business.

The ordinance was drafted by a representative group of disinterested citizens, of which Todd Stoops, secretary-manager of the Hoosier Motor Club, was chairman.

CANADIAN ASSOCIATION MAY ACT TO PROTEST U. S. TRUCKS' PURCHASE

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work should be kept in Canada, especially at the present time."

Joseph Gibbons, chairman of the Toronto Hydro Commission, stated in defense of the commission's action that at the time the matter of awarding the contract was under discussion the Diamond T Company was considering setting up an assembly plant in Canada, but that in any event, if the commission had awarded the contract to a higher tanderer, so that a Canadian manufacturer would get it, they would have been severely criticized by their customers and by the taxpayers. They were spending public money and so must get the lowest price.

DE PAOLO AGAIN WITH DE SOTO; PLANS SALES TOUR OF KEY DEALERS

Detroit, July 28.—Peter De Paolo, 1925 and 1927 A. A. A. racing champion and holder of the speed record for the Indianapolis 500-mile race, has rejoined the sales staff of De Soto Motor Corporation, according to an announcement made here today by L. G. Peed, general sales manager.

During the next few months De Paolo will visit important keypoints in the De Soto dealer organization and conduct meetings for the wholesale and retail sales staff of each dealer. On his present trip he is driving a new De Soto Eight De Luxe sedan with free wheeling. Free wheeling is optional on all De Soto sixes and eights now at slight additional cost.

De Paolo's itinerary for July and August includes the following cities: Lima, Columbus, Pittsburgh, Youngstown, Canton, Akron, Cleveland, Erie, Batavia, Rochester, Auburn, Syracuse, Oneida, Utica, Gloversville, Amsterdam, Schenectady, Albany, Troy, Kingston and Poughkeepsie.

BAUSCH MACHINE TOOL SUES FOR $9,000,000

Springfield, Mass., July 28.—The Bausch Machine Tool Company of this city has filed suit in United States District Court at New Haven against the Alumnium Company of America, of Fairfield, Pittsburgh, Pa., seeking $9,000,000 damages.

The plaintiff company charged the defendant concern with having a monopoly upon the alumnium business, controlling the prices and unfair competition. The plaintiff alleges the defendant holds the bulk of buxite deposits in the world, through its subsidiary companies, and through discrimination of prices is forcing other concerns out of business.

Detroit Speculates on What Ford Is Planning for Fall

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as the running mate of the Lincoln, very likely called the Edison. With a low-priced eight as a meal ticket for the Lincoln dealer, that high-priced car could break into many cities and towns which would not support Lincoln alone. Our very best gossip-mongers insist that this eight will be tagged at a price somewhere around the $700 level.

New York started the rumor that Ford will announce the eight over a radio hook-up August 15, but out here they are not placing any credence in this.

After all, though, what's the use of trying to guess what Henry Ford is going to do? When he gets good and ready to take the public into his confidence, and probably about two hours before going to press, he'll spring it.

SPARKS *from* DETROIT

Schebler's Start
* * *
Pierce's Beginning
* * *
Marvel Absorbs Rivals
* * *
It's Carbureter Romance
* * *
Speeding Down the Dunes

Chris Sinsabaugh—Detroit Editor

MARVEL moving its subsidiary, Schebler, from Indianapolis to Flint, thus speeding up operations in the big carbureter plants in Buicktown, so that now they are operating five days a week instead of three, brings to light a business romance that is both colorful and interesting.

To begin at the beginning, twenty-five years or more ago, George Schebler, a clever engineer, was working on a carbureter idea that he had, and in the same shop with him was Burt N. Pierce. Opportunity knocked at Schebler's door first in the shape of Frank H. Wheeler, a glassware salesman with a little capital and out of a job. Wheeler was visiting in Indianapolis at a time when every one in the city was seemingly trying to break into the automobile business. He heard of George Schebler, looked at his carbureter and while he knew nothing about the automobile business he felt he was salesman enough to put it over. So the firm of Wheeler & Schebler was formed. Wheeler more than made good and the Schebler carbureter since has been one of the leading makes in the country. More about them further down in the column.

* * *

WHILE all this was going on Pierce was tinkering with his idea, a carbureter with a glass bowl, an impressive feature in those days, because we used to get a lot of water in our feed lines. He, too, was looking for a backer and he found one in J. R. Francis, who died a week or so ago. Francis was a local druggist and he, too, aspired to break into the automobile business. He had capital and he and Pierce formed the Marvel Carbureter Company in 1912. Buick liked the Marvel and a deal was made, but Buick insisted that its carbureter supplies must be made within the shadows of the factory doors, so Marvel moved to Flint.

Since that time Marvel has had a big finger in the carbureter pie, gradually overcoming competition until now operating as subsidiaries are not only the Schebler, but also Rayfield, once a formidable rival, and the Johnson, a Detroit product. Pierce, while no longer active in the Marvel company, still acts in an advisory capacity, while G. G. Francis, son of the founder, is president of the Wheeler & Schebler Company and also assistant general manager of Marvel, George Taft being general manager and Don P. Molony sales manager.

* * *

GOING back to the early days of Wheeler & Schebler, they tell a story that well illustrates the salesmanship of the late Frank Wheeler. The company had made a fairly good start when the panic of 1907 struck the country. The puny automobile industry was hard hit—no one had any money, but all believed the storm would blow over. With a big stock on hand, Wheeler sought a market. He wrote Buick and Overland that they could have as many carbureters as they wanted and could pay for them when times got better. Gratefully the two companies took advantage of this long credit and Wheeler profited when times got better. For years he held both the Buick and Overland accounts because these two companies remembered the helping hand extended them when credit took the place of money.

* * *

HENRY FORD owns the Dearborn Inn and consequently is in the hotel business. Barney Oldfield (I don't need to tell you who he is) is a boniface, too. All of which brings to mind that old story of how Barney Oldfield made Henry Ford and Henry Ford made Barney Oldfield, having to do with the famous "999" racing car which put both of them on the automobile map. Now they are both hostelrying.

Barney has just broken in as owner and operator of La Moderne, a hotel-apartment establishment located at the intersection of Hobart Boulevard and 8th Street, Los Angeles. A young feller like Barney, just starting out in a new business, needs a little help, so the conductor calls La Moderne to the attention of automobile folk who may be called to Los Angeles on "business."

* * *

S. A. E. activities in Detroit are lagging these summer months, but the new administration is set for a busy campaign the coming fall and winter. In addition to the regular sessions, the Detroit section will arrange a series of

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New Ideas, Picked Personnel Win Service Profit

Lincoln, Neb., Buick Company Makes Repair Department Real Money Maker Through Alertness; Contacts by Phone, Direct Mail

THE constant use of direct mail advertising and the telephone in contacting customers, alertness in adopting new ideas and care exercised in building up the shop personnel are the points stressed by Ralph Abbott, service manager of the Lincoln Buick Company, in building up and maintaining a profitable service and repair department.

As proof of the value of Mr. Abbott's policy, his shop is taking care of an average of forty cars a day, and has held to the volume of profits and business during the first half of 1931 that was experienced during the same period a year ago.

Fred Sidles, president of the Lincoln Buick Company, declares that his service and repair department has been the real money maker for his business during the past year, and he is making every effort to conduct this department so that the volume of business will continue to grow. He looks for his profits for a number of years to come to be derived mainly from the repair shop.

The service and repair department of the Lincoln company is the largest and best equipped for Buick service in the city, while it is among the largest and busiest shops in the Middle West. The entire sixth floor of the Buick building in Lincoln, covering more than a quarter of a block at 13th and Q Streets, is given over to the repair shop, while about one-third of the first floor is devoted to the service department. The Lincoln Buick Company leases the first and sixth floors of the Buick building, while the othef floors are used by the Buick Motor Company, which bought out the Nebraska Buick Automobile Company in 1930.

Mr. Abbott maintains a file containing the names of more than 1,000 customers and live prospects for service, and he sends direct mail advertising to this list regularly. Seasonal repair operations are stressed in this advertising, and a large volume of the company's business is made up by grouped mechanical operations advertised by direct mail. At present Mr. Abbott is having prepared a year's supply of such advertising, with a special sheet or folder for use each month of the year.

A special system recently adopted by Mr. Abbott in keeping track of jobs which come in for service and repair involves the use of a large blackboard set up in the service manager's office on the first floor. The names of the regular customers, along with the time each customer's car is promised to come out of the shop, are listed on the board. This idea appeals to the majority of customers and impresses them with the fact that the service department is making every effort to give them real and personal service.

The department adheres closely to the schedule on the board concerning the time that each job has been promised out of the shop. If for any reason this schedule cannot be met, the girl in the service manager's office telephones the customer, explaining the cause for the delay and giving the time at which the customer can expect to get his car.

In addition to the regular use of direct mail and the maintaining of an up-to-date file in the service department, the office girl also makes constant use of the telephone. In fact, the 'phone is used to give the customers notice of the time their cars are due in the shop for service, to check and recheck on these initial calls, and to give a very personal sort of service in calling up customers or prospective customers whose cars are in need of special service or repair, as shown by the records in the office of the department.

The Lincoln Buick Company has been unusually successful in keeping both its new car and used car customers. A large percentage of the customers recorded in the files have been regular patrons of the service and repair department for six or more years. Mr. Abbott attributes this to the fact that his department has proved that it is the best Buick service and repair shop in Lincoln and surrounding territory, and that the mechanics are all "old timers" and well satisfied with their jobs.

"A service department manager cannot be too careful in handling his personnel," Mr. Abbott declared. "If you get a good mechanic you should pay him a fair wage, treat him square and make every effort to keep him, for it is these expert mechanics who have been a long time with the shop who have a large personal following among the customers and are always on their toes to keep on meriting the confidence and good will of the customers they serve.

"We have sixteen mechanics in our shop, and not one of them has been with the company less than four years. The majority have been on the job in the neighborhood of ten years. In addition, we keep a wash man, parts man, service department office girl, and three experienced men on the service floor besides myself. These three service men are veterans in the company's service and are well known in our territory as expert trouble shooters and Buick authorities."

The Lincoln Buick Company has fifty-two employees in all departments, the same number employed during the prosperous years of 1928 and 1929, and not one of these persons has had to submit to a wage cut. Mr. Sidles is rather proud of this record, and he says that his policy of not cutting wages or personnel has been a paying one in the long run, as the employees are better satisfied and work harder than they would if they were afraid of their jobs or had to take a cut in wages. Incidentally, these fifty-two employees have been keeping busy in 1931 and business has been well up to the 1930 levels.

Mr. Abbott's department owes much of its popularity among Lincoln Buick owners to its complete equipment, expert personnel, handy location and arrangement, and cleanliness. Both the shop and the first floor service department are painted twice a year. A roomy street entrance and alley exit have been provided, while a court adjoining the exit provides parking space for approximately 100 cars.

N. J. Trade Group Analyzes State Automobile Business

NEWARK, N. J., July 28.—The Newark Automobile Trade Association has tabulated and analyzed the figures issued by the United States Department of Commerce that pertain to the automobile business and show a comparison with other businesses in this city. It has also broken down the figures in the automotive group for the information of its members.

A comparison is also given of the automotive business in the leading cities of New Jersey outside of Newark, as well as a group of the small cities which help to form what has become known as Industrial Newark.

Ten per cent. of the total employees in retail trade in Newark are engaged in the automotive business, and do 15 per cent. of the entire net sales. Of the total salaries and wages in the retail group in Newark, amounting to $41,745,000, the automotive group pays out more than $5,000,000, or one-eighth of the total.

"It is interesting to note," says Claude E. Holgate, manager, "that in Belleville the volume of automotive business is 30 per cent. of the total volume of retail business done there, whereas in Newark it is but 15 per cent. This possibly is explained by the fact that most Belleville citizens purchase their cars and service locally, but do their department store and other shopping in Newark.

"The value of the Oranges and Montclair as an automotive distribution field is indicated by the percentage figures given, which show that in South Orange alone one-third of the total retail business is in the automotive line.

"In Jersey City, with its 317,000 population, the net automotive sales were 12,000,000, while in Newark, with 442,000 population, the sales were 49,000,000 or four times as much as in Jersey City, the second largest city in the state.

"We are glad to have this information ourselves, as it will be useful when talking to civic officials and others as to the importance of our business, and many who belong to Rotary, Kiwanis and other civic organizations can probably find equally valuable use for it.

"Sales managers who are figuring out their quotas, as well as the potentiality of their territory, will find these figures enlightening in conjunction with other available figures showing total volume of business in their particular price class."

The following are the tables prepared by Manager Holgate:

AUTOMOTIVE GROUP IN NEWARK
(Population 442,337)

	Number of Estbs.	No. Employees, Full Time	Net Sales 1929	Stocks on Hand End of Year At Cost	Salaries and Wages
Motor vehicles, new and trade-ins, not incl. U/C	Estbs.. 50	1,267	$32,503,400	$2,720,078	$2,760,610
Motor Vehicles, used car	estabs.. 19	62	1,366,287	140,736	114,445
Acc., Tires, Batt's.	128	392	6,279,838	904,229	743,195
Filling Stations..	221	564	6,367,304	244,546	891,522
Motorcycles, Bicycles, supplies...	10	15	252,485	47,029	25,555
Garage, repairs, gas, oil, etc....	153	375	2,466,875	157,158	545,881
Other auto estabs.	1	4	21,000	4,904	1,400
Total auto group.	582	2,679	$49,257,189	$4,218,680	$5,082,608

Per capita for Newark, $111.00.

AUTOMOTIVE GROUPS IN OTHER NEW JERSEY CITIES

	% of Total Sales	No. of Estbs.	No. Employees, Full Time	Net Sales 1929	Stocks on Hand End of Year At Cost	Salaries and Wages	Population
Paterson	17	181	792	$15,008,548	$1,423,913	$1,436,060	138,513
Trenton	17	215	957	13,742,633	1,270,504	1,415,804	123,356
Jersey City	10	288	910	12,093,686	1,075,915	1,705,782	316,715
Elizabeth	16	210	587	10,102,540	964,175	1,029,496	114,589
Camden	17	152	652	9,257,343	958,272	961,800	118,700
Montclair	27	84	458	7,855,784	652,000	947,864	42,017
E. Orange	24	114	515	7,400,585	521,928	854,105	68,020
Irvington	21	72	230	4,392,000	250,927	383,774	56,733
So. Orange	33	25	112	2,622,101	349,242	247,779	13,630
Bloomfield	19	69	180	2,529,687	149,626	296,871	38,077
Belleville	30	33	99	2,103,888	139,348	220,930	26,974
Orange	9	55	148	1,593,609	118,032	231,909	35,399
Harrison	12	11	39	506,467	46,748	66,884	15,601

Per capita for thirteen cities, $80.00.

FORD NEW CAR SALES SHOW JUNE DECLINE AROUND GREAT LAKES

New York, July 28.—Registration of new Ford passenger cars in four states of the Great Lakes region that have reported sales for June showed sharp declines both from the preceding month and from the corresponding period of last year.

Ford registrations in Illinois in June amounted to 3,429, as against 4,557 in May, a falling off of 24 per cent., and comparing with 7,652 in June, 1930, off 49 per cent. In the first six months Ford sales in that state totaled 21,039, as against 42,958 in the corresponding period of last year, a falling off of 51 per cent.

Indiana reported Ford sales in June off 47 per cent. from the preceding month and 56 per cent. under a year ago. For the first six months of the year the decline was 52 per cent.

Minnesota's Ford registrations last month were just half the May total and were 67 per cent. below a year ago. The falling off in this state for the first half year was 59 per cent.

Wisconsin reported a decline in Ford registrations of 52 per cent. from the preceding month and 66 per cent. from June, 1930. The falling off in the first half year was 55 per cent. in that state.

The following tables show Ford sales, month by month, in these four states in the first half of 1931 and 1930:

ILLINOIS

	1931	1930
January	2,123	4,260
February	2,598	5,253
March	3,153	8,112
April	5,179	9,164
May	4,557	9,417
June	3,429	6,752
Totals	21,039	42,958

INDIANA

January	1,142	2,146
February	1,087	2,545
March	1,721	5,439
April	2,552	3,622
May	2,126	4,231
June	1,119	2,568
Totals	9,747	20,551

MINNESOTA

January	645	1,181
February	491	1,581
March	2,046	3,360
April	2,129	6,429
May	1,852	4,771
June	923	2,788
Totals	8,086	20,110

WISCONSIN

January	709	1,558
February	804	1,694
March	1,320	3,349
April	1,796	3,756
May	1,844	5,456
June	885	2,591
Totals	7,358	18,404

REDUCES USED CAR STOCK BY PRICE CUT, GAS BONUS

Seattle, Wash., July 28.—In a plan to reduce its used car stocks, Burwell-Jones Company, Auburn and Cord distributorship, is advertising a cut in prices and a special bonus of 100 gallons of gasoline with each purchase.

Giving the public greater values in used cars is the watchword of the firm. "In these days of low prices," states W. E. Burrell, manager, "a first-class used car that has been given good care still has much greater value than any new car of equivalent price."

This is a broad statement, but it is being used to help put over the used car sale.

CHEVROLET LEADS SEATTLE; SALES FORCE GETS DINNER

Seattle, Wash., July 28.—With seventy-five salesmen and sales managers present, Ray D. Wilson, Chevrolet zone manager in Seattle, entertained at a banquet and smoker, in recognition of their bringing Chevrolet sales in the city to the top during the month of June. The affair was held at the Washington Athletic Club and the Civic Auditorium.

MARMON DISTRIBUTOR GETS LARGER ATLANTA QUARTERS

Atlanta, Ga., July 28 (UTPS).—Denny Marmon Company, distributor in Georgia for Marmon, has announced the removal of its offices and display rooms to new and larger quarters at 512-16 Peachtree St. The removal, according to William C. Denny, president of the company, makes possible better service to Marmon prospects and customers and provides better arrangements for display.

CHEVROLET PROMOTES FOOTE

Los Angeles, July 28.—C. K. Foote, for the past four years sales representative of the Los Angeles Chevrolet zone office, has been named sales promotion manager, under P. F. Minnock, zone manager.

A NEW FRANCHISE IN THE VOLUME TRUCK FIELD

Four-cylinder $625, Six-cylinder $725
Chassis f. o. b. Lansing, Michigan
Dual Wheels Extra

There is volume in the lowest price truck field *now*. For proof, examine the registration figures for your own territory. With the new 1½-ton Reo Speed Wagon at $625 you can share this volume *profitably*. Reo sales to date show that nearly *one-half* were clean' deals involving no trade-in. And when trades *are* necessary, you can buy the used vehicle on the right basis — thanks to the truck's exceptional quality. Inquire about Reo's Special Truck Franchise (with regular dealer discounts) and get all the impressive details.

REO MOTOR CAR COMPANY
LANSING—TORONTO

Mail this Coupon At Once
REO MOTOR CAR CO., Lansing, Mich.
Please send me at once—either by letter or through your representative—details of the Reo Special Truck Franchise. ADN729

Name _____
Address _____
_____ City _____ State

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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Depressionist Prophets

WILLIAM O'NEIL, president of the General Tire and Rubber Company, has issued an interesting little brochure, which he calls "Why Wait?"

According to this booklet, a group of the leading financial statisticians met in New York on November 4 to discuss the future of American business. Prof. William Foster, the economist, was one of the group and he reported the opinions expressed then by these expert students of economics, as follows:

"The farmers will not buy much from the proceeds of this harvest; and with the price declines in process throughout the world, there would seem to be little prospect of any extensive business revival in the near future."

"The general prospect is for slow and irregular business for ten years."

"I expect to see a long and slow recovery to a general level of subnormal, slow business."

"Prices will advance a little from present levels and then fall once more. Recovery will be slow."

"Conditions abroad will continue to affect our business conditions here. It is a conservative estimate to say that ten years must elapse before we can see genuine prosperous business in this country."

"Business will come back to fair slow operations in three years."

"The period of readjustment will be long. It will take at least ten years."

"We may expect a slow return to a basis on which business can be done at a profit in about three years."

Now, the interesting part of all this is that these opinions were expressed, as we noted, on November 4, but it was November 4, 1921. In the ten-year period set by most of the experts in economic prophecy, is included the period of 1928 and 1929, years when American business reached a record level of prosperity.

In commenting on these depressionist opinions of 1921, Prof. Foster remarks:

"At that time business was actually improving, although the experts did not know it. Within four months the gain was so marked that everybody could see it. Within sixteen months business was so far above normal that experts became frightened again.

"Today the major economic factors are more favorable to a rapid recovery of business than they were in 1921. It is my sober belief that, just as the depressionists of 1921 were routed, so the depressionists of 1931 are in for a rude awakening."

When one is at the bottom of a deep, black depression, he tends to take the pessimistic view of the possibility of ever getting out of the economic cavern. This country of ours always has shown a recuperative power beyond our fondest hopes. Just now we are going through the normally dull summer solstice and this, added to the depressed state of business, has given birth to a fresh wave of pessimism.

In the present state of business and industry, it is right and proper that caution should rule. It is not a time for careless expansion. But we shall do well to remember how far the depressionists of 1921 were from the mark. We shall do well to remember how often this country of ours has scrabbled up out of depression periods far sooner than economic experts believed possible. It never is a healthy practice to sell America short.

Nash has joined the list of companies which will not close their plants for a general vacation period this year. Chevrolet has announced that sales during the first ten days of July were 12 per cent. above those for the same period last year and sales during the second ten days were 16 per cent. above the same time last July.

Differential Discussions

Holds Dealer's Reputation Worth More Than Contract

Editor Automobile Daily News:

Was very much interested in what George Susens had to say regarding bankable dealer contracts, as reported in Automotive Daily News of July 18.

While bankers might look favorably upon ironclad contacts as an insurance that the dealer would be more apt to stay in business for a stated length of time, I am of the opinion that the reputation of the dealer himself as an honorable business man and a good risk would weigh far more heavily in his favor than any contract that might be written.

In the first place, no manufacturer is going to write such a contract as he has outlined, with any dealer, unless the dealer is the type of man that the banker would be willing to aid with a loan, anyway.

While I am of the opinion that manufacturers can go further than they have to aid the dealer, especially in providing an outlet for worthless, worn out automobiles, I do not think that any great good can be accomplished by a change in selling contracts.

No manufacturer is looking for excuses to cancel contracts today. Instead, they are putting forth every effort to help their dealers stay in business and fulfill their contracts.

No banker is going to lend money on the face value or future possibilities of any contract unless the dealer is the type of man who will respect his contract with the manufacturer, his obligation to the banker, and last, but not least, his contracts with the public in his community.

Frankly speaking, I will say that I think there is altogether too much weight given the importance of sales contracts, sales procedure and salesmanship in this automobile business. What, after all, is salesmanship except selling yourself to the public? If your community hasn't faith in you as a square shooter, who will give them the best of it always, there's not much hope of succeeding with iron-bound contracts and high-pressure sales talks. Furthermore, when an established dealer has intrenched himself solidly with the people in his community, has proven that he has their welfare at heart and really takes an interest in helping them, not having uppermost the thought of how much he is going to get, but thinking how quickly and well he can serve them, that dealer will never lose his contract. And the majority of dealers today are just that type of men.

One thing, however, I do agree with is the statement that manufacturers should give better territorial protection. A large manufacturer of medium-priced cars writes what I consider is one of the best contracts in this regard, and has what I consider an ideal protective clause, in that a car must be sold and operated five months in its original sales territory before it can be resold or taken into another dealer's territory without being subject to infringement claims. Also they have a stringent rule against selling new cars in any guise to used car dealers, and woe betide the unfortunate dealer who fails to live up to that agreement; his contract is canceled immediately.

Incidentally, there is altogether too much of that wholesaling of new cars done by small dealers, trying to reach a quota and, I believe, in most cases entirely unknown to the manufacturer. If the manufacturers would check up closer themselves on this phase of the business, satisfy themselves as to legitimate delivery of cars at retail, instead of waiting for some dealer to file an infringement claim, they would confer a favor on the honest dealers who live up to the terms of their agreements. There is a lot more of this indiscriminate selling of new cars to used cars dealers going on than is generally known, especially so in the low-priced field, and unless brought to a halt by better factory supervision, will work incalculable injury to the industry as a whole.

W. S. SUMNER.
Birmingham, Mich.

COMING EVENTS

SEPTEMBER

1- 3—**Cleveland, O.** Hotel Statler, Society of Automotive Engineers, twentieth annual aeronautical meeting in conjunction with National Air races.
8-17—**Utrecht, Holland.** Utrecht Fair, bus and truck show.
16-17—**Atlantic City, N. J.** National Petroleum Association, annual meeting. Hotel Traymore.
20-26—**Springfield, Mass.** Eastern States Exposition.
21-25—**Boston, Mass.** American Welding Society, meeting. The following societies will participate: American Society for Steel Treating, American Welding Society, Iron and Steel Division, A. S. M. E.; Machine Shop Practice Division, A. S. M. E.; Iron and Steel Division, A. I. M. E.; Institute of Metals, A. I. M. E.
28-29—**Atlantic City, N. J.** National Association of Motor Bus Operators, fifth annual meeting. Hotel Ambassador.

26-Oct. 2—**Atlantic City, N. J.** American Electric Railway Association, annual meeting.

OCTOBER

1-11—**Paris, France.** International Automobile Salon.
2- 3—**Houston, Tex.** American Institute of Mining and Metallurgical Engineers, petroleum division meeting.
12-16—**Chicago, Ill.** National Safety Council.
14-16—**Pittsburgh, Pa.** Society of Industrial Engineers, convention.
15-24—**London, England.** International Motor Exhibition, Olympia Hall.
22-28—**Prague, Czecho-Slovakia.** International Automobile Exposition.

$1,000,000 FAIR BUILDING GENERAL MOTORS PLAN

Chicago, July 28.—Announcement has been made by officials of the 1933 Century of Progress world's fair here that the General Motors Corporation has contracted for a $1,000,000 exhibition building at the exposition.

Plans for the structure, it is stated, are being drawn by Albert Kahn, noted architect, of Detroit. The building will be erected along the lake front near 31st Street, near the Travel and Transport Building, which is now nearing completion.

Signing of the contract places General Motors in the position of being the first individual corporation to arrange for its own building at the fair. Plans call for showing the processes of car assembly as well as the exhibition of various General Motors products.

Contemporary Comment

WE (the United States) are pre-eminently fitted from the historic and economic standpoints to assume the leadership in solving the problem of how to speed the opening up of the huge buying market potentially available in Russia. This buying power will be regulated by the capacity of the Russian people to achieve higher standards of living.

By helping them to raise their present extremely low standards we will eliminate most of the existing causes of economic friction that now stand in the way of normal trade relations, and in doing so we will benefit greatly in the stimulation our own industries will receive through increased participation in this new buyer's market. Where else in the world today can we look for an early new buying power secured by natural wealth such as exists in Russia today?

I have stated elsewhere that ultimately $3,000,000,000 of purchases would not be too much to expect annually from the Russian people. To achieve these requires only $18 per capita of Russian expenditures, and when we consider that Russia has more undeveloped natural resources than all the balance of Europe, and that Europe's imports, exclusive of Russia, amounted in 1929 to over $19,000,000,000, or $52 per capita, and our own sales alone to Europe, exclusive of Russia, in 1929 were over two and one-fourth billions, you will see that this is really a conservative estimate of the potential Russian buying power and probably would be greatly exceeded if common sense is applied to this problem.

Sensational stories of the so-called Russian menace to the United States are very popular today and receive front-page space in our newspapers throughout the country. We had a similar situation years ago concerning Japan, when the alarmists told us of the peril of assisting the Japanese people to a better standard of living. American initiative and practical common sense opened the door to trade with Japan, with the result that in 1929 Japan purchased over a billion dollars' worth of goods from the outside world. Shall we allow it to be said of us that we are lacking in initiative and common sense in the problem of how to open the door to fair trade with Russia?

The leaders of Russia are intellectual men and women. It is a popular fallacy that they are ignorant fanatics. But they are fanatical in their belief in ultimate results, and completely in earnest. And they are honest. In New York, transactions of $550,000,000 between the Soviet government and American business men were investigated, and not a nickel of graft was found. The sense of business rectitude in Russia is such that I wouldn't ask a Russian to lunch with me, and never have. In a volume of $750,000,000 trade carried on with the United States, they have never welched or failed to pay.

All over Russia you see constructive work, water, light and power plants, homes for old people, hospitals, recreation centers, new factories. When they build a woolen factory, or a tractor factory, that doesn't mean that they will turn out goods equal in quantity or quality to such a factory in this country. They have much to learn, and it will take them a period of years. But they are moving in a constructive direction.—**Col. Hugh L. Cooper in Economic Review of the Soviet Union.**

Increasing Profits From Bakery Deliveries

This report on economical truck operation in the bakery field was prepared by the General Motors Truck Company, Pontiac, Mich., and appears in serial form in Automotive Daily News. Copies of this report in pamphlet form are now available at all General Motors Truck Company dealer and distributorships.

DURING this survey, bakers almost uniformly declared that they were little concerned over losses of time when trucks were on the route, because salesmen-drivers on a commission basis tend to make full use of their time. But careful observation of many bakers' trucks shows that time losses on the route are, in many cases, so frequent and costly that they deserve careful attention with a view to reducing them.

For example, let us look at the record of one truck which was covering a route on a busy day. The route involved twenty-three stops, a comparatively short route, for deliveries of hot bread. The accompanying chart shows what happened to the 2 hours and 52 minutes consumed in covering the route. Notice that the time lost in delays on the route was equivalent to five additional deliveries, based on the average running time and unloading time for each stop. Other trips of this same truck showed essentially the same result. It made three trips a day and lost approximately 1 hour and 12 minutes on the routes alone.

Five Causes of Route Delays

A study of many bakers' trucks covering typical bakery routes shows that there are five common causes for delays on the route. It is seldom possible to eliminate these delays entirely. But they can be reduced appreciably by a little effort on the part of drivers, route foreman, or delivery and sales executives. Here are the common causes of delay on the average bakery route, and the remedies some bakers have applied:

A TYPICAL TIME SCHEDULE

Start 11.10 A. M.
Return 2.02 P. M.

Running time (bet. stops)	56 m.
Actual unloading time	84 m.
Delays and idle time	**32 m.**
Total elapsed time	172 m.
Aver. run. time per stop	2.4 m.
Aver. unload. time p. stop.	3.7 m.
Total time per delivery	6.1 m

The potential value of time lost on the trip was five additional deliveries.

1—Delays on C. O. D. deliveries. Much time is lost on these deliveries, unnecessarily, when customers object to paying C. O. D. Such objections lead to argument, the necessity of calling the credit manager at the bakery, and a long delay for truck and driver. One bakery marks "C. O. D.—O. K." When the cus- can be allowed, the ticket is marked "C. O. D—O. K." When the customer is on the border line and the salesman must call in, the ticket is simply marked "C. O. D." And when credit cannot be granted under any circumstances, the ticket is marked "C. O. D. Only."

2—Returns. Difficulty over returns is another common source of delay which frequently can be cut down. When troubles over returns are frequent, some bakers send out policy letters to their trade, explaining their position on returns and requesting co-operation. Others, who have established a rigid policy on returns, simply mark the route list for each truck to show where returns are allowable, in order to save time for the driver.

3—Poor routing. In numerous cases, fixed routes, including many that had been established for months and years, were found to be improperly routed from the standpoint of time and mileage savings. Routes should be laid out on street and road maps and carefully studied at least once every two to three months.

4—"Deadline" deliveries. Frequently trucks were forced to backtrack on the route to get orders to certain customers before an established deadline. In many cases, this extra time and mileage might easily have been reduced by bringing the customer into a normal position on the route.

5—Special deliveries. The special delivery is a great time and mileage waster. Some customers warrant special service. Others do not. The baker should designate some responsible person to decide in each case whether a special delivery is justified.

(To Be Continued)

REWARD 16 FIRMS, 87 MEN IN IOWA SAFETY CAMPAIGN

Waterloo, Ia., July 28.—Through the efforts of Kiwanis Club, eighty-seven drivers of commercial vehicles, representing sixteen Waterloo firms, have been presented with engraved certificates signifying that the possessor has operated a vehicle for an entire year without an accident. Drivers receiving the awards are members of the "safety fleet," sponsored by the Waterloo Safety Council.

P. S. BUS LINE GETS OFFICIAL APPROVAL

Trenton, N. J., July 28.—Operation of buses between Perth Amboy and South Amboy by the Public Service Co-ordinated Transport is lawful, the state Board of Public Utility Commissioners holds, despite the complaint of the Marathon Bus Line, alleging that the Public Service forfeited its right to such operation when it discontinued operating buses on a portion of the route during the month of December, 1929, without the approval of the Utilities Board.

ERSKINE TO HANDLE MACK TRUCK BRANCH IN CHICAGO

Chicago, July 28.—The Chicago branch of Mack Trucks, Inc., 3300 Wentworth Ave., is now headed by Clyde Erskine, formerly branch manager at St. Louis and associated with the company for the past ten years, it was announced today. Mr. Erskine succeeds E. G. Bern as local branch manager.

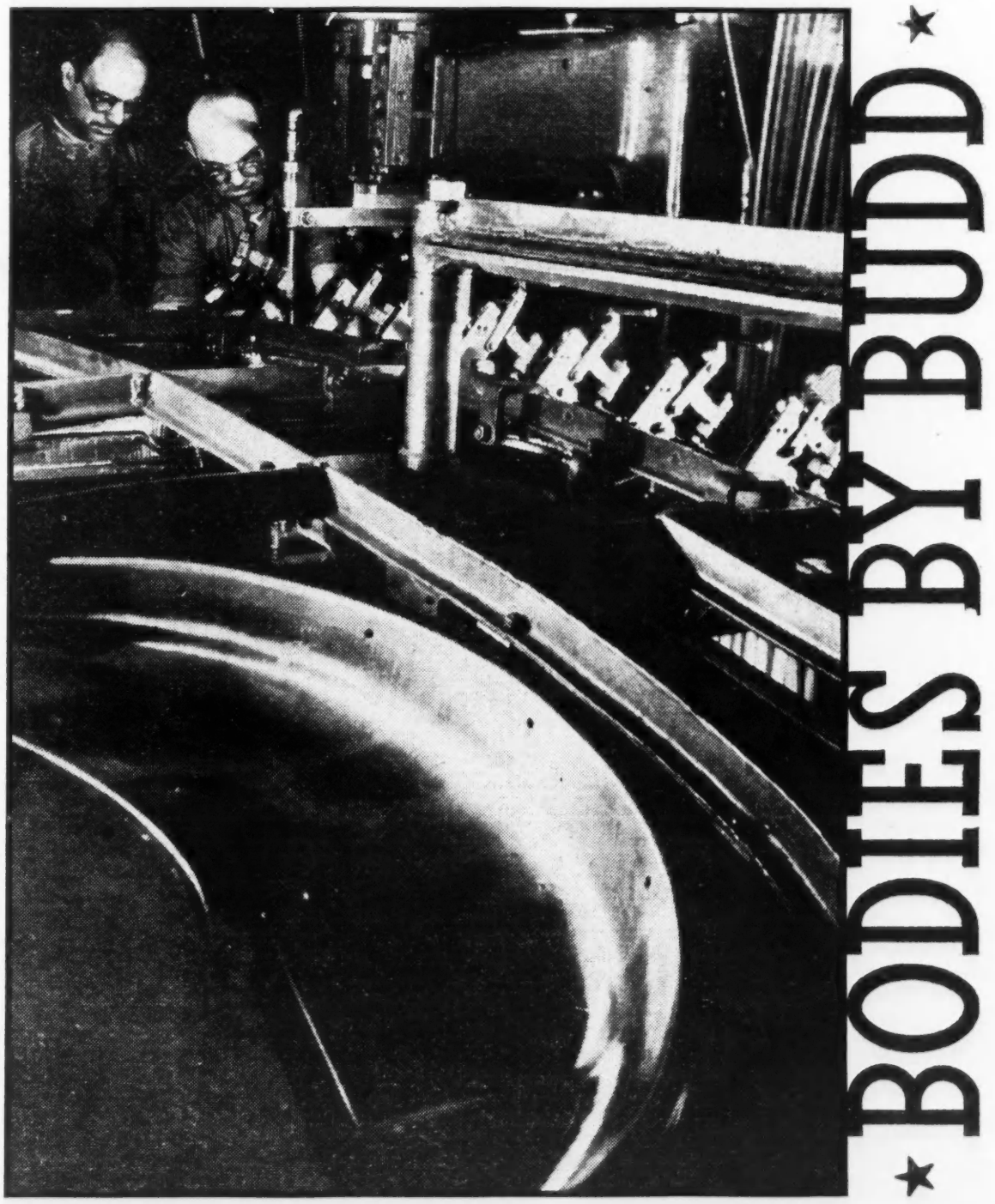
DUMP TRUCK OWNERS FORM ASSOCIATION

Newark, N. J., July 28.—The Essex county unit of the New Jersey Truck Owners Association has been formed here. Joseph F. Fay, who controls the International Excavating Company, which owns about ten dump trucks and several steam shovels, sponsored the organization.

The parent truck owners' association in Hudson county is controlled by Theodore M. Brandle, head of New Jersey building trades unions.

The officers named are: Joseph Yacullo, president; Phillip Fee, vice-president; John Mulligan, secretary-treasurer, and Harry H. Martin, business agent.

Automobiles are so good to-day that the importance of small body noises or other minor imperfections is bound to be magnified. In the one-piece body Budd safeguards the littlest things. For example, a jig, holding the whole side of a body, has been devised to insure the faultless spot welding of rain gutters to the body. Such attention to seemingly trivial details is one of the reasons why Budd one-piece bodies are uniformly free from small flaws . . . and permanently quiet.



Originators of the All-Steel Body. Used to-day by manufacturers in the United States, Great Britain, France and Germany.

New Dealers Appointed

CALIFORNIA

Nash—Nash-La Brea Company, Los Angeles; Washington Nash Company, Los Angeles.

Hudson—George T. Ward, San Francisco; C. B. Johnson (City Garage), Ojai.

Willys-Overland—Greene Motor Sales, Napa; Johnson Garage, Watsonville.

Studebaker — Erwin's Garage, Quincy.

Auburn—Glen City Motor Company, Ventura; La Jolla Garage, La Jolla.

CANADA

Nash—Horner Motor Sales, Ottawa, Ontario.

Hudson—J. Pilot, St. Edouard de Frampton, Quebec; Charles Gagnon, St. Fabien, Quebec; Jean Lepage, Ste. Flavie, Quebec; A. Labbe, St. Leon de Standon, Quebec; G. Pelletier, Ste. Marie, Quebec; Celestin Audet, Ste. Rose, Quebec; J. Borsje, Baden.

Graham-Paige—Ed Couture, Kapuskasing, Ontario.

COLORADO

Willys-Overland — The Gardner Motor Company, Inc., La Junta.

Studebaker—Benson Motor Company, Loveland; Lewis-Woodford Motor Company, Ovid.

CONNECTICUT

Willys-Overland—Danielson Motor Sales, Danielson; Gillmor-Moody Company, Inc., New Haven; Gillmor-Moody, Inc., Waterbury.

DELAWARE

Studebaker—W. Harman Reynolds, Townsend.

FLORIDA

Graham-Paige—J. W. Terry, Lake City; Albertson & Smith, West Palm Beach.

GEORGIA

Nash—Edge-Fuller Motor Company, Inc., Columbus.

ILLINOIS

Nash—Lake Bluff Garage, Lake Bluff; Josephson Nash Company, Joliet; Orville Goldsworthy, Elizabeth; Emich Nash Company, Chicago.

Graham-Paige — Bielenberg Motor Sales, Wheaton.

Hudson—Balzekas Motors, Chicago; Bates Auto Sales, Harvey; Logan Square Hudson-Essex, Chicago.

Willys-Overland — Lang Motor Company, Chicago Heights; Hancock Motor Company, Lawrenceville.

Studebaker—The Maston Agency, Bradford.

Marmon — Suburban Motor Car Company, Maywood.

Auburn — Mil-Ford Motor Company, Chicago.

INDIANA

Willys-Overland—The Jones Motor Sales, Logansport.

Auburn — Martinsville Auburn Company, Martinsville; Kimmerling Motor Sales, Elwood.

IOWA

Willys - Overland — Weir Motor Company, Cedar Falls; Gregory Motor Company, Council Bluffs; Neil & Co., Marshalltown; Kelly Brothers, Mount Vernon; A. J. Spear, Wellman; Rickey Motor Company, Winfield.

Auburn—Centerville Motor Company, Inc., Centerville.

KANSAS

Nash—P. H. Jorgensen, Belleville.

Willys-Overland—Al L. Bormans, St. Francis; Tribune Motor Company, Tribune.

Hudson — Leonard C. Brown, Meade.

Auburn—H. B. Peatling, Salina; C. M. Brack Motor Company, Great Bend; Johnson Motor Company, Junction City.

KENTUCKY

Hudson — Long Hudson - Essex Company, Madisonville.

Willys-Overland—Lambert Motor Company, Middleboro.

MASSACHUSETTS

Hudson — William A. Roberts, Millbury.

Willys-Overland — W. H. Casey Motors, Milford.

Graham-Paige — Shea Brothers, Turners Falls; Williams Auto Company, Westfield; Wein's Garage (distributor), Newburyport; Boisvert & Murphy, Williamansett; Howard E. Stiles, Orange.

Passenger Car Equipment and Accessories

NAME AND MODEL	Speedometer	Clock	Fuel Gauge on Dash	Lock	Spark Plugs	Battery	Heat Indicator	*Cig. Lighter	Smoking Set	Vanity Set	Make of Body Finish Used	Stop Light	Parking or Side Light	Safety Glass	Heater	Front Bumper	Rear Bumper	Wire Wheels	Shock Absorber
Auburn 8-98	Ste	—	K-S	Ele	Cha	USL	—	Cas	No	No	Mim	Ind	Ind	—	—	Cen	Cen	Day	Lov
Austin	NE	—	K-S	BS	Cha	USL	—	—	—	—	Duc	—	—	—	—	Cen	Cen	—	Own
Buick 8-50	AC	—	K-S	Her	AC	**	AC	—	Tern	—	Duc	Gui	Gui	—	—	Wol	Wol	K-H	Lov
Buick 8-60	AC	—	K-S	Her	AC	**	AC	—	Tern	—	Duc	Gui	Gui	—	—	Wol	Wol	K-H	Lov
Buick 8-80	AC	—	K-S	Her	AC	**	AC	—	Tern	—	Duc	Gui	Gui	—	—	Wol	Wol	K-H	Lov
Buick 8-90	AC	—	K-S	Her	AC	**	AC	—	Tern	Tern	Duc	Gui	Gui	—	—	Wol	Wol	K-H	Lov
Cadillac V-8	AC	Jag	Mot-M	DR	AC	DR	AC	Cas	Tern	Tern	Duc	Hal	Hal	Sec	Kel	Eat	Eat	K-H	Lov
Cadillac V-12	AC	Jag	Mot-M	DR	AC	Ex	AC	Cas	Tern	Tern	Duc	Hal	Hal	Sec	**	Eat	Eat	K-H	Lov
Cadillac V-16	AC	Jag	Mot-M	DR	AC	Ex	AC	Cas	Tern	Tern	Duc	Gui	Hal	Sec	*	Gen	Gen	K-H	Lov
Chevrolet	AC	—	AC	DR	AC	*	AC	—	Tern	—	Duc	Gui	Gui	—	*	†Own	Own	Own	Lov
Chrysler 6	NE	—	Mot-M	DR	AC	Wil	Yes	—	—	—	Ditz	Cor	Cor	Opt	—	—	—	—	Lov
Chrysler 8	NE	—	Mot-M	DR	AC	Wil	Mot-M	—	—	—	Ditz	Hal	Hal	Opt	—	—	—	—	Lov
Chrysler Imp. 8	AC	—	Mot-M	DR	AC	Wil	Mot-M	Cas	—	—	Ditz	Hal	Hal	Opt	—	—	—	—	Hou
Cord Front Drive	Ste	No	Mot-M	DR	Cha	USL	Ster	Cas	GR	No	Mur	Ind	Ind	—	No	ASP	ASP	Day	Hou
De Soto Six	NE	No	Mot-M	DR	AC	Wil	Yes	No	Yes	Yes	Duc	Cor	Hal	—	No	Yes	Yes	—	Lov
De Soto Eight	NE	No	Mot-M	DR	AC	Wil	Mot-M	No	Yes	Yes	Duc	Cor	Hal	—	No	Yes	Yes	—	Lov
De Vaux Six	Ste	No	Mot-M	Yale	Cha	Pre	Mot-M	No	No	No	Duc	JB	JB	—	No	Gen	Gen	MotoW	Hou
Dodge Six	NE	—	AC	DR	AC	Wil	AC	—	VS	VS	Ditz	Cor	Cor	Opt	—	Yes	Yes	Budd	Lov
Dodge Eight	NE	—	AC	DR	AC	Wil	AC	—	VS	VS	Ditz	Cor	Cor	Opt	—	Yes	Yes	Budd	Lov
Durant 610	NE	No	Mot-M	Aut-L	Cha	USL	Mot-M	NE	No	No	Rin	Cor	No	—	—	Bad	Bad	MotoW	Mon
Durant 612	NE	No	Mot-M	Aut-L	Cha	USL	Mot-M	NE	No	No	Rin	Cor	No	—	—	Eat	Eat	MotoW	Mon
Durant 614	NE	No	Mot-M	Aut-L	Cha	USL	Mot-M	NE	GR	No	Rin	Cor	Yes	—	—	Eat	Eat	MotoW	Mon
Durant 619	NE	No	Mot-M	Aut-L	Cha	USL	Mot-M	No	No	No	Rin	Cor	No	—	—	Bad	Bad	MotoW	Mon
Essex Super Six	Ste	—	Mot-M	Ele	AC	Ex	Mot-M	—	Yes	—	Ditz	JB	JB	—	—	Own	Own	†MotoW	Mon
Ford A	Var	—	Own	Ele	Cha	Own	—	—	—	—	—	Own	—	Tri	—	Own	Own	Own	Hou
Fr'klin S 15 Trans.	NE	Jag	K-S	DR	Cha	USL	—	Cas	*	GR	*	Cor	Cor	**	—	CG	CG	MotoW	Lov
Fr'klin S 15 De L.	NE	Wal	K-S	DR	Cha	Nat	—	Cas	*	GR	*	Cor	Cor	**	—	CG	CG	MotoW	Lov
Graham Bros. 6	NE	—	K-S	Her	Cha	Wil	Mot-M	—	—	—	*	Hal	Own	—	—	ASP	ASP	MotoW	Lov
Graham Stan. 6	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	—	*	Hall	JB	LOF	—	ASP	ASP	MotoW	Lov
Graham Sp. 6	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	—	*	Hall	JB	LOF	—	ASP	ASP	MotoW	Lov
Graham Sp. 8	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	—	*	Hall	JB	LOF	—	ASP	ASP	MotoW	Lov
Graham Cust. 8	NE	*	K-S	Her	Cha	Wil	Mot-M	Cas	VS	—	*	Hall	JB	LOF	—	ASP	ASP	MotoW	Lov
Hudson Greater 8	Ste	—	Mot-M	Ele	AC	Ex	Mot-M	—	Yes	—	Ditz	Hal	Hal	Dup	—	Own	Own	†MotoW	Gab
Hupmobile Cen. 6	Ste	—	Mot-M	Ele	Cha	Wil	Mot-M	—	VS	—	Val	Cor	Cor	LOF	—	—	—	K-H	Gab
Hupmobile Cen. 8	Ste	—	Mot-M	Ele	Cha	Wil	Mot-M	—	VS	—	Val	Hal	Hal	LOF	—	—	—	K-H	Gab
Hupmobile U	Ste	—	Mot-M	Ele	Cha	Wil	Ster	Cas	VS	—	Val	Hal	Hal	LOF	—	—	—	K-H	Gab
Hupmobile H	Ste	—	Mot-M	Ele	Cha	Wil	Ster	Cas	VS	—	Val	Hal	Hal	LOF	—	—	—	K-H	Gab
Hupmobile C	Ste	—	Mot-M	Ele	Cha	Wil	Ster	—	VS	—	Val	Hal	Hal	LOF	—	—	—	K-H	Gab
La Salle V-8	AC	Jag	AC	DR	AC	DR	AC	Cas	Tern	Tern	Duc	Hal	Hal	Sec	—	Eat	Eat	K-H	Lov
Lincoln 8	NE	Thom	K-S	Her	Cha	Ex	Mot-M	Cas	Cuno	Yes	*	Hal	Own	Tri	—	Bif	Bif	Own	Hou
Marmon 70	Ste	No	Mot-M	DR	Cha	Nat	Mot-M	No	No	No	Val	Cor	Cor	Opt	No	Gen	Gen	Day	Gab
Marmon 88	NE	Ster	Mot-M	DR	Cha	Ex	Mot-M	Cas	Yes	Yes	Val	Cor	Cor	Dup	No	Gen	Gen	Day	Gab
Marmon 16	—	Ster	Mot-M	DR	Cha	Ex	Mot-M	Cas	Yes	Yes	Ditz	Hall	Hall	Dup	No	Gen	Gen	Day	Gab
Nash Nine 60	Ste	—	K-S	Her	AC	USL	K-S	—	Tern	—	*	**	**	Opt	—	Bad	Bad	†MotoW	Lov
Nash Nine 70	Ste	—	K-S	Her	AC	USL	K-S	—	VS	—	*	**	**	Opt	—	Bad	Bad	†MotoW	Lov
Nash Nine 80	Ste	—	K-S	Her	AC	USL	K-S	—	VS	—	*	**	**	Opt	—	Eat	Eat	†MotoW	Lov
Nash Nine 90	Ste	Borg	K-S	Blos	AC	Ex	K-S	Cas	VS	—	*	**	**	Opt	—	Eat	Eat	†MotoW	Lov
Oakland 8	AC	—	AC	BS	AC	DR	—	—	Tern	Tern	Duc	Gui	Gui	—	—	Own	Own	Moto-W	Lov
Oldsmobile	AC	—	AC	DR	AC	Wil	AC	—	Tern	—	Duc	Gui	—	—	—	—	—	MotoW	Lov
Packard 901	NE	Jag	K-S	—	Cha	Pre	Mot-M	Cas	—	—	Ditz	Hal	—	LOF	—	Cen	Cen	MotoW	Lov
Packard 902	NE	Jag	K-S	—	Cha	Pre	Mot-M	Cas	—	—	Ditz	Hal	—	LOF	—	Cen	Cen	MotoW	Lov
Packard 903	NE	Jag	K-S	—	Cha	Pre	Mot-M	Cas	—	—	Ditz	Hal	—	LOF	—	Cen	Cen	MotoW	Lov
Packard 904	NE	Jag	K-S	—	Cha	Pre	Mot-M	Cas	—	—	Ditz	Hal	—	LOF	—	Cen	Cen	MotoW	Lov
Peerless Stand. 8	AC	—	Mot-M	BS	Cha	Wil	Mot-M	Cas	—	No	Val	Cor	Cor	Dup	No	Cen	Cen	Bimel	Gab
Peerless Mast. 8	AC	Ster	Mot-M	BS	Cha	Wil	Mot-M	Cas	—	No	Val	Cor	Cor	Dup	—	Eat	Eat	Bimel	Gab
Peerless Cust. 8	AC	Ster	Mot-M	BS	Cha	Wil	Mot-M	Cas	GR	No	Val	Cor	Cor	Dup	—	Eat	Eat	Bimel	Gab
Pierce-Ar'w 41-2-3	NE	Wal	**	Her	Cha	Wil	**	NE	VS	VS	Mim	—	Gui	LOF	—	Eat	Eat	Budd	Lov
Plymouth	NE	—	Yes	Sha	AC	Wil	—	—	—	—	Duc	Cor	Cor	—	—	Gen	Gen	‡	Lov
Pontiac	AC	—	AC	BS	AC	DR	—	—	Tern	Tern	Duc	Gui	Gui	—	—	Own	Own	K-H	Lov
Reo Royale 8-35	Ste	Elgin	K-S	DR	Cha	Wil	AC	Yes	Yes	No	†	Gui	Gui	†	No	CG	CG	MotoW	Lov
Reo Royale 8-31	Ste	No	K-S	DR	Cha	Wil	AC	Yes	Yes	No	†	Gui	Gui		No	CG	CG	MotoW	Lov
Reo 8-21	Ste	No	K-S	DR	Cha	Wil	K-S	No	No	No	—	*	*	No	No	CG	CG	—	Lov
Reo 6-21	Ste	No	K-S	DR	Cha	Wil	K-S	No	No	No	—	*	*	No	No	CG	CG	—	Lov
Reo Fly'g Cl'd 625	Ste	—	K-S	DR	Cha	Wil	AC	Yes	Yes	No	†	—	Gui	†	No	CG	CG	MotoW	Lov
Studebaker Six	Ste	No	K-S	Yale	Cha	Wil	Ste	—	No	No	*	Ind	Ind	—	No	Ste	Ste	K-H	Lov
Studebak'r Dict. 8	Ste	No	K-S	Yale	Cha	Wil	Ste	No	—	No	*	Ind	Gui	—	No	Ste	Ste	K-H	Lov
Stud. Com. 8-70	Ste	No	K-S	Her	Cha	Wil	Ste	—	—	No	*	Gui	Gui	†	No	Ste	Ste	K-H	Lov
Stud. Pres. 8-80	Ste	NH	K-S	Her	Cha	Wil	Ste	Cas	*	No	*	Gui	Gui	†	No	Ste	Ste	K-H	Hou
Stud. Pres. 8-90	Ste	NH	K-S	Her	Cha	Wil	Ste	Cas	*	No	*	Gui	Gui	†	No	Ste	Ste	K-H	Hou
Stutz LA	Ste	Wal	Mot-M	DR	Cha	Pre	Mot-M	Cas	No	Lin	Val	Ind	—	Dup	—	Buck	Buck	MotoW	Gab
Stutz MA	Ste	Wal	Mot-M	Her	Cha	Pre	Mot-M	Cas	Lin	Lin	Val	Ind	—	Dup	—	Stan	Stan	K-H	Gab
Stutz MB	Ste	Wal	Mot-M	Her	Cha	Pre	Mot-M	Cas	Lin	Lin	Val	Ind	—	Dup	—	Stan	Stan	K-H	Gab
Stutz DV 32	Ste	Wal	Mot-M	Her	Cha	Pre	Mot-M	Cas	Lin	Lin	Val	Ind	Ind	Dup	—	Stan	Stan	K-H	Gab
Willys 97-98 D	NE	No	K-S	Aut-L	Cha	USL	No	No	*	No	*	Yes	Yes	Opt	No	*	*	†	Mon
Willys 8-80 D	NE	No	K-S	Aut-L	Cha	USL	Yes	—	Yes	No	*	Yes	Yes	Opt	No	*	*	†	Mon
Willys-K. 66D	NE	No	K-S	Aut-L	Cha	USL	Yes	—	Yes	No	*	Yes	Yes	Opt	No	*	*	†	Mon
Willys-K. 95	NE	—	Yes	—	Cha	USL	Yes	—	—	—	Own	Yes	Yes	Opt	—	*	*	Yes	Mon

KEY TO ABBREVIATIONS USED IN THIS TABLE

SPEEDOMETER

AC—AC Spark Plug Co., Flint, Mich.
NE—North East Appliance Corp., Rochester, N. Y.
Ste—Stewart-Warner Speedometer Corp., Chicago.
Var—Various makes.

CLOCK

Borg—Borg Clock Co.
Elgin—Elgin Watch Co.
Jag—Jaeger Watch Co., New York city.
NH—New Haven. See Phi.
Phi—Phinney-Walker Co., New York city.
Ster—Sterling Clock Co., La Salle, Ill.
Thom—Seth Thomas Clock Co.
Wal—Waltham Watch Co., Waltham, Mass.
*Optional.

FUEL GAUGE

AC—AC Spark Plug Co., Flint, Mich.
K-S—King Seeley Corp., Ann Arbor, Mich.
Mot-M—Moto Meter Gauge and Equipment Corp., Long Island City, N. Y., and La Crosse, Wis.
**—Pierce-Arrow uses both U. S. and King Seeley.

LOCK

Aut-L—Electric Auto-Lite Co., Toledo.
BS—Briggs-Stratton Co., Milwaukee.
Blos—Blossom, Delco-Remy Corp., Anderson, Ind.
Ele—Mitchell Specialty Co., Holmesburg, Pa.
DR—Delco-Remy Corp., Anderson, Ind.
Her—Hershey Mfg. Co., Chicago.
Sha—Shaler Lock Co., Milwaukee, Wis.
Yale—Yale & Towne Mfg. Co.

SPARK PLUG

AC—AC Spark Plug Co., Flint, Mich.
Cha—Champion Spark Plug Co., Toledo, O.

BATTERY

DR—Delco Remy Corp.
Ex—Electric Storage Battery Co., Philadelphia.
Nat—National Lead Battery Co., St. Paul Minn.
Pre—Prest-O-Lite Co., Indianapolis, Ind.
USL—U S L Battery Corp., Niagara Falls, N. Y.
Wil—Willard Storage Battery Co., Cleveland, O.
*Various makes—Exide, Willard, Delco-Remy and USL.
**Both Exide and Delco-Remy used.

HEAT INDICATOR

AC—AC Spark Plug Co., Flint, Mich.
Mot-M—Moto Meter Gauge and Equipment Corp., Long Island City, N. Y., and La Crosse, Wis.
Ste—Stewart-Warner Speedometer Corp.
Ster—Sterling Clock Co., La Salle, Ill.
US—U. S. Gauge Co., N. Y. C.
**Using boh U. S. and AC.

CIGAR LIGHTER

*Cigar lighters in many cases are optional equipment, and are not standard on all models; the names of lighters shown indicate the makes supplied to various car makers.
Cas—Casco Products Corp., Bridgeport, Conn.
NE—North East Appliance Corp., Rochester, N. Y.

SMOKING AND VANITY SETS

GR—Grand Rapids Metalcraft Corp., Grand Rapids, Mich.
Lin—Linden.
VS—Van Sicklen Corp., Elgin, Ill.
Tern—Ternstedt Mfg. Co., Detroit, Mich.
Cuno—Cuno Engineering Corp., Meriden, Conn.
*Various makes.

BODY FINISH

Ditz—Ditzler Color Co., Detroit, Mich.
Duc—E. I. du Pont de Nemours & Co., Philadelphia.
MIM—Pittsburgh Plate Glass Co.
Mur—Murphy Varnish Co., Newark, N. J.
Rin—Rinehed Mason Co.
Val—Valentine & Co., New York city.
*Various lacquers used.
†Using both Ditzler and Pratt & Lambert.

STOP AND PARKING LIGHTS

Cor—Corcoran Lamp Co.
Gui—Guide Lamp Corp., Anderson, Ind.
Hal—O. M. Hall Lamp Co., Detroit, Mich.
Ind—Indiana Lamp Corp., Connersville, Ind.
JB—The Jno. W. Brown Lamp Mfg. Co., Columbus, O.
*Using both Hall or Guide.
**Using both Corcoran and Brown.

SAFETY GLASS

Sec—Security, product of General Motors.
Tri—Triplex Safety Glass Co.
LOF—Libbey-Owens-Ford.
Dup—Duplate Corp.
Indestructo—Indestructo Glass Corp.
Opt—Optional.
**—Using both L-O-F and Indestructo.
*—Using both Security and Duplate.
†—Using both L-O-F and Duplate.

HEATER

Kel—Kelch made by Grand Rapids Metalcraft Corp., Grand Rapids, Mich.
*Optional.
**Not standard equipment on Cadillac V-12.

BUMPERS

ASP—Alloy Steel Products.
Bad—Badger Mfg. Corp., Milwaukee.
Bif—Biflex Corp., Waukegan, Ill.
Buck—See Cen.
CG—C. G. Spring and Bumper Company.
Cen—Central Brass & Fixture Co., Springfield, O. Also makers of Buckeye bumpers.
Eat—Eaton Axle and Spring Co., Cleveland, O.
Gen—General Spring and Bumper, Detroit.
Stan—Standard Steel Spring Corp.
Ste—Stewart-Warner Speedometer Corp.
Wol—Wolverine Bumper & Spec. Co.
‡Extra equipment.
*Optional.

WIRE WHEELS

Bimel—Bimel Spoke and Auto Wheel Co., Portland, Ind.
Budd—Budd Wheel Co., Detroit.
MotoW—Motor Wheel Corp., Lansing, Mich.
Day—Dayton Wire Wheel Co., Dayton, O.
K-H—Kelsey-Hayes, Detroit, Mich.
‡Using both Kelsey-Hayes and Motor Wheel Corp.
†Not standard equipment.

SHOCK ABSORBERS

Gab—The Gabriel Company, Cleveland.
Hou—Houde Engineering Corp., Buffalo, N. Y.
Lov—Delco Products Corp., Dayton, O.
Mon—Monroe Auto Equip. Mfg. Co., Monroe, Mich.

A British View of Free Wheeling

British Manufacturers Tried Free Wheeling, Dropped It and Are Now Likely to Go Back to It After The Success It Has Had in America

AT the present time cars equipped with free wheels are being produced in quantities by eight important American manufacturers, and there is every indication that others will follow suit. This state of affairs represents really rapid progress when it is considered that only eighteen months have elapsed since the first attempt was made to sell a free-wheel car in the United States. It is a measure of the readiness of the motoring public to accept any important mechanical innovation, the benefits of which are made clear by strong publicity methods.

The fate which the free wheel has experienced at the hands of European manufacturers forms an unhappy contrast to its transatlantic successes. It is now seven years since the first post-war free-wheel car appeared in France and nearly five years since a similar machine was first developed in England. At the Olympia Show of 1928 a number of British manufacturers exhibited cars on which free wheels of various types could be obtained as optional extras. It was, however, but a half-hearted move, and there was no sustained effort to make headway with the innovation. The motoring public, left to "take it or leave it," naturally looked askance at a device which apparently did not secure the unreserved approval of car makers, and consequently interest in the free wheel was allowed to wane.

No journal took so active a part in investigating free-wheel devices as did the Motor, and during 1928 we carried out prolonged trials with free-wheel mechanisms fitted to certain of our staff cars. The results of these and other tests were described from time to time and were finally collected in a special free-wheel number published in January, 1929—the only number of its kind ever produced. All the arguments then brought forward are being employed today as selling points by American car manufacturers, who have stepped in to reap the advantage of free wheeling after British makers had allowed their opportunity to pass.

We have recently published a number of road-test reports upon the performance of the new free-wheel models which are being produced in the United States. These fully confirm the conclusions which we reached some years ago, and show, in our opinion, that the advantages of free-wheeling outweigh the criticisms which can be brought against it. While it would be foolish to pretend that a free wheel added to an ordinary transmission solves all difficulties, it is, nevertheless, an important step toward a more complete solution of a problem with which automobile engineers have been grappling for thirty-five years.

We believe that with the incentive they are now receiving British and continental car makers will, in all probability, hastily reconsider the possibilities of the free wheel both as a stimulus to sales and as a technical improvement of considerable merit. The time would therefore seem opportune to recapitulate the points for and against free-wheeling, to which we have given so much attention during the past five years.

It is interesting to notice that the two points in favor of the free wheel which possess the greatest appeal for the American public are the ease of gear-changing which it confers and the "new thrill" which it gives to motoring. Here it may be as well to explain that on a free-wheel car coasting occurs whenever the foot is taken off the accelerator, the car running freely, with the engine idling, as though it were in neutral. While coasting is in progress any gear can be engaged at will without the slightest noise or shock. It is then only necessary to open the throttle in order to speed the engine to a point at which it picks up the drive.

We now come to the most common criticism of free-wheeling, which is that the sensation of unrestrained coasting is not pleasant to those accustomed to the orthodox system. We are inclined to think that this view is far more common amongst designers and expert trade drivers in general than amongst the public. On the other hand, it must be admitted that much depends upon the car in question. Good road-holding and efficient brakes are essential qualities, and, furthermore, it is as well that the engine should run quietly. The reason for this third proviso is that after the silence of coasting a noisy engine seems particularly obtrusive when it is once again brought into use.

Given these essentials, the use of a free wheel certainly provides a new interest in motoring and does away with a great many of the disadvantages to which we have become inured through long habit, such as, for example, the unpleasant overrun on indirect gears.

The next aspect of the subject is the economy in operation which a free wheel makes possible. In view of the heavy tax levied on petrol it is surprising that more has not been made of this. Naturally, a great deal depends upon the way a car is driven, but the tests which we have carried out, supplemented by results obtained from other sources, show that one may confidently expect a saving in petrol ranging from 15 per cent. to 25 per cent. There is also a small but not unimportant saving in oil, in wear and tear, and in the frequency with which decarbonizing is required.

Experienced drivers sometimes assert that they feel less safe on a slippery surface when coasting than when running with the engine coupled to the rear wheels. In the old days, when brakes were fitted to the rear wheels only, there was certainly something to be said for this point of view, but with properly equalized four-wheel brakes it would seem to be a claim based more upon fancy than reality.

Before concluding, a few brief notes may be given concerning the types of free-wheeling mechanism which have proved their worth both here and in America. The type which is the most widely used is that in which rollers are mounted between inner and outer metal surfaces in such a way that they bind for one direction of rotation, but run freely in the opposite direction.

Such a device can be made in very many forms and is frequently placed in a small casing mounted behind the gearbox, so conveying the drive to the propeller shaft. The Millam and Humfrey-Sandberg free wheels are the most prominent English examples of this class, and in America similar devices are being used by Essex, Graham, Hudson, etc. On the Auburn car the free wheel occupies this position, but the mechanism takes the novel form of a tightly coiled spring, which grips a surrounding sleeve when the drive is in such a direction as to tend to cause the coils to unwind slightly.

Two other locations have been used for free wheels, one being represented by the De Lavaud device, which has been considerably used in England and replaces the differential in the back axle, while the other is exemplified by an American free wheel (introduced by Studebaker), which fits within the gear box. The De Lavaud device comprises two free wheels, fitting side by side within the final drive, one driving each of the rear wheels. It has various important advantages over the orthodox differential.

The Studebaker free wheel is most ingeniously arranged to convey the drive in the gear box when either top gear or a silent second speed are in use; it is inoperative on the first and reverse gears.

A great variety of mechanisms has been employed to permit the driver to dispense with his free wheel should an emergency arise. Most of these can be used only after "revving" the engine to car speed, and there is room for improvement in this respect.

To sum up, it is curious that, although British engineers have been very active during the past few years in the production of improved transmissions, such as the "silent third," self-changing gear box and fluid flywheel, the free wheel has been comparatively neglected. To the technician a wedge-grip drive is not "pretty," but, as it has been proved to work satisfactorily and to be acceptable to the public, a change of attitude may now occur.—The Motor (England).

CONNECTICUT MOTOR VEHICLE CHIEF SEES SPEED LIMIT DEVICES

HARTFORD, CONN., July 28.—**Speed limitation devices, to be attached to all vehicles, may become necessary if operators do not govern their own speeds to conform with conditions, Commissioner of Motor Vehicles Robbins B. Stoeckel has declared. The constant increase in serious accidents is cited by the commissioner in his statement, which is described as more of a warning than a prediction.**

"It has often been proposed," the commissioner says, "that the state require the installation of governors, especially on commercial motor vehicles. The theory of this is that a very large vehicle going at a very high rate of speed is more dangerous than a small one because of the greater tonnage and the consequently greater impact force.

"All such projects, when considered by legislative committees or by the department, have been more or less discounted because of imperfections. However, if these are overcome, there is no reason why a state cannot require the maintenance of a governor in a car just as it does the maintenance of brakes.

"The question of the governor is not so much to the fore at present as another mechanical proposition, which has come up again and again, and always in a more practical and more definite form. This is the recording speedometer.

"There is now in process of perfection by its inventors a speedometer which will carry the record of a car as to its speeds for varying periods of distances. Should such a device ever be required on cars with an accompanying sealing apparatus, which would keep owners from opening it, there might be a perfect record for investigation on speed and for a suppression of high speeds where such are indulged in to unreasonable extents.

"Perhaps the use of such a machine would be limited, from an enforcement standpoint. One limitation would be that the type of traffic, in which high speed was used, could not be decided from the record of an automatic machine.

"Whatever the present imperfections of mechanical control devices, the idea should be considered that, if present methods of enforcement are not increased sufficiently to be effective, the state is apt to turn to other methods to control speeds and traffic performance.

"This is not a prediction thta this will come about. It is rather a caution to all those who drive on the highways that the use of extreme speeds, especially in improper places, must soon be more strenuously attacked by enforcement authorities, and that the legislative mind is apt to be directed toward its control through mechanical devices."

DODGE RETAIL DELIVERY SHOWS INCREASE OF 39%

Detroit, July 28.—Overall retail deliveries of passenger cars, trucks, school buses and taxicabs by Dodge Brothers dealers in the United States for the period ending July 11, showed an increase of 39.2 per cent. as compared to the preceding week, according to a factory bulletin. Compared to the same week a year ago, the increase was 23.3 per cent.

SPARKS from DETROIT

(Continued from Page 2)

meetings for technical students in universities and colleges in and near Detroit under the direction of Alex Taub.

The new governing board of the section consists of O. T. Kreusser, chairman; George Allen, secretary; F. W. Marschner, treasurer; E. S. MacPherson, chairman passenger activities; R. F. Anderson and J. W. Votypka, chairman and assistant of body activity; W. Pritchard and R. Du Bois, chairman and assistant of student activity; E. Reeser, chairman entertaining committee, and J. Schermerhorn, Jr., editor of the section's publication, the Detroit Supercharger.

* * *

HAL TRUMP thinks I am technical because I write for A. D. N., which is most pleasing to one's vanity, even if it is not a fact, so he has asked me to be one of the judges in the Federal Mogul contest, which will be decided August 30. I'm in good company, along with Tom Duggan of the National Standard Parts Association and C. H. Hohn, president of the Detroit Boosters Club.

* * *

Once sales manager of J. C. Haartz of New Haven, making top dressing; then a Motometer executive, and most recently with the MacManus agency, Fred Dodge is swinging into a new job—Detroit manager of Motor Magazine. With this move Harry Doering, Western manager, goes to New York to become Motor's advertising manager.

* * *

DETROITERS returning from Chicago tell me of the new speed regulation on the Dunes Highway, between Gary, Ind., and Michigan City, which went into effect Sunday. From now on you must drive at exactly forty miles an hour, no more, no less, over the Dunes Highway. If you don't you are either arrested or ordered off the road.

Like going through the Holland Tunnel from New York to New Jersey, where you are required to step along at thirty miles an hour or get run over. And you still find signs cautioning you not to exceed fifteen miles an hour.

HORNE ELECTED LEADER OF GEORGIA TRUCKMEN

Atlanta, Ga., July 28.—W. W. Horne, president of the Commercial Transfer and Storage Company, was elected president of the Georgia Truck Operators' Association at a meeting here recently. His election followed the resignation of H. L. Spring, due to lack of time. Mr. Spring, however, will remain a director.

A report of the legislative committee was made by C. M. Hugnley, chairman, which was augmented by remarks of J. F. Ball, vice-chairman. Mr. Ball called attention to the drastic measures recently passed in Texas, Oklahoma and other states which, he said, virtually put the truck operators out of business and should emphasize the need for an organization of truck operators in Georgia.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

SAFETY GLASS

will contribute to

NEW CAR SALES

No manufacturer can afford to ignore public demand. The demand for Safety Glass as a necessary, common sense measure of protection is universal. In the near future no new car will meet public approval without it. Libbey-Owens-Ford Safety Glass has a decided preference in the public mind—because it has demonstrated its unusual qualities of long life and clarity of vision.

LIBBEY-OWENS-FORD GLASS COMPANY, TOLEDO, OHIO

Manufacturers of Highest Quality Flat Drawn Window Glass, Polished Plate Glass and Safety Glass; also distributors of Figured and Wire Glass manufactured by the Blue Ridge Glass Corporation of Kingsport, Tenn.

The following are users of L-O-F Safety Glass: Packard, Graham, Studebaker, Franklin, Reo, Willys, Willys-Knight and Ford. It is also used in Dietrich and Le Baron Custom Bodies, Reo Speed Wagons, Paige Commercial Cars, Twin Coaches, Brill Trolley Buses, Cincinnati Trackless Trolley Coaches, Bender Bus Bodies, Hackney and Springfield School and Passenger Bus Bodies, White School Buses, York Hoover School Bus Bodies, Stinson Aircraft, Gar Wood Boats and Matthews Cruisers.

Listen to Floyd Gibbons every Sunday evening at 10:15 Eastern Daylight Time, over WJZ and associated NBC stations.

LIBBEY-OWENS-FORD SAFETY GLASS

Production - - Engineering - - Factory -

Construction and Use of The Stroboglow

By L. R. QUARLES
Westinghouse Electric and Manufacturing Company

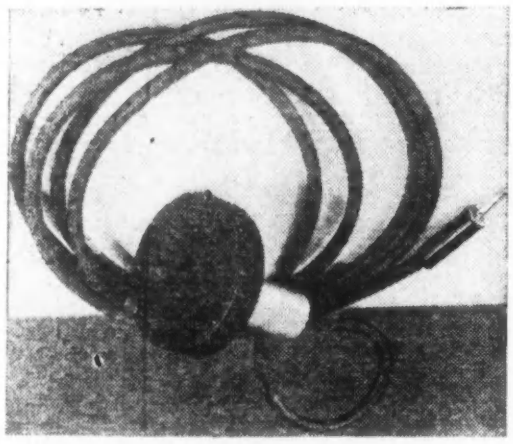


FIG. 5

The following, in part, is a paper presented at a recent meeting of the Cleveland section, Society of Automotive Engineers, Cleveland, O.:

For applications where it isn't objectionable to connect to the rotating machine, a special mechanical contactor (Fig. 5) may be used. This is composed of the handle and outer shell, which contains one contact, and the rotor, containing the other contact. These contacts are specially designed to give a short contact once each revolution. This contactor is held against the lathe center of the shaft, the rubber tip giving the connection. This method of timing gives an absolutely stationary image, regardless of whether the machine speed varies or not. While this gives a moving part, it is simple and rugged. The only adjustment is that of occasionally changing the contacts to compensate for wear. This is accomplished by loosening a thumb-nut and rotating an eccentric. This contactor operates the Stroboglow by connecting the grid to the anode of the tube, thus throwing its potential to the most positive part of the circuit. Before the tube can flash and the condenser recharge, the contacts have broken so only one flash lasting 3 micro-seconds is obtained per revolution.

For high speeds, vibrating motions, places where it is objectionable or even impossible to connect to the machine, or where slow motion action is desired, the oscillator has been designed. This is a special adaptation of the millivibrator type oscillator, Fig. 5. This oscillator consists of two vacuum tubes with a peculiar cross connection between the grids and plates of the two tubes. Since the circuit cannot be exactly balanced, when the switch is closed a slightly different current will flow through Rp and Rp', causing the circuit to start oscillating. Assume the current through Rp is decreasing, thus causing the potential of tube T to increase, in turn causing a charging current to flow to C, through R'g. This increases the potential of the grid of tube T', thereby increasing the current of T', and causing its potential to decrease. A discharge current through C,' and Rg results and the grid of T becomes more negative and a further decrease of current in T occurs. When the upper and lower limits of current in the two tubes are reached the currents in Rg and R'g cease and the grids go to filament potential. The plate current of T immediately increases and the process repeats in the other direction.

This cycle of operation results in a peculiar wave with an abrupt front. This wave is applied to the contact terminals of the Stroboglow through two condensers. This gives a very peaked current wave through the resisters of the Stroboglow and momentarily raises the grid potential of the grid glow tube enough to cause breakdown. The steep wave front prevents any slight difference of breakdown potential on succeeding cycles causing a difference in time of breakdown. The abrupt falling off of the wave eliminates any chance of grid voltage still being applied to the grid glow tube when the condenser has recharged. This is repeated once every cycle, so by adjusting the oscillator frequency to synchronism with the moving object the image appears motionless at any desired point in the cycle of motion. By setting the frequency slightly different from that of the object slow motion may be obtained in either direction.

(To Be Continued)

NEW FOSCO MANIFOLD FOR DE VAUX 6

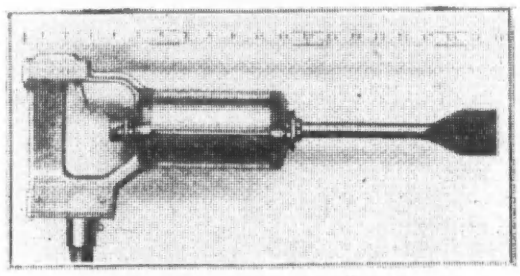
A new manifold heater, designed for use with the De Vaux 6 is announced by F. O. Schoedinger, Columbus, O., manufacturer of the Fosco line. It will be distributed through dealers and jobbers at an attractive low price, the manufacturer states.

MAKES NEW POURING CONTAINER

A new pouring container for paints, varnishes and other liquids has been introduced by Geuder, Paeschke & Frey Company, Milwaukee. The Pour-Klean, as it is called, has a part of the top deflected at an angle of 45 deg. from which the telescopic spout extends.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Syntron Electro-Magnetic Scaling Hammer



SYNTRON electro-magnetic scaling hammer

The Syntron Company, Pittsburgh, Pa., has recently placed on the market a small electro-magnetic scaling hammer weighing nine pounds. It is designed particularly for scaling rust, paint, etc., from metal truck frames. The blow of the hammer is adjusted to strike sufficiently hard to remove the deepest pitted rust, but not nick or dig into the metal.

The hammer operates from 110 volt, 60 cycle ordinary light-line current.

BUCKEYE HEAVY DUTY DRILL AND REAMER

The model 287 heavy-duty drill and reamer has been added to the line of portable pneumatic tools manufactured by Buckeye Portable Tool Company, Dayton, O. It weighs forty pounds.

KANE FORMING MACHINE

A new forming machine which can be used for several applications in the automotive field has been recently introduced by Kane & Roach, Inc., Syracuse, N. Y.

CUMULATIVE NEW PASSENGER CAR

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Some of this data has been published previously, but it is given here complete for the convenience of our subscribers. Readers desiring

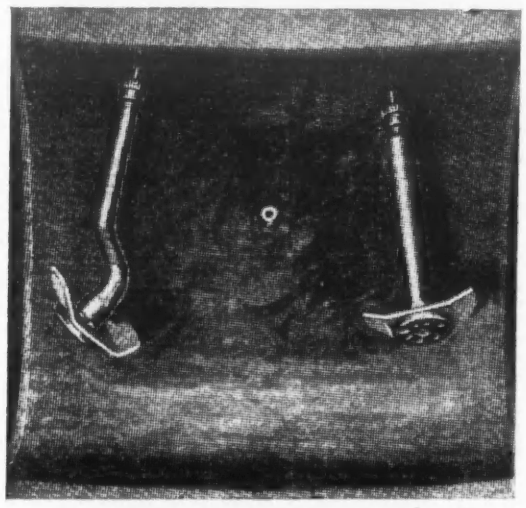
Returns for today: Arizona, Colorado, Kansas, Ketnucky, Louisiana, Maine,

In this table 47 states and the District of Columbia — Comparative figures for June, 1930

States	Auburn	Austin	Buick	Cadillac	Chevrolet	Chrysler	Cord	De Soto	De Vaux	Dodge	Durant	Essex	Ford	Franklin	Graham	Hudson	Hupmobile	La Salle
Alabama	12	1	40	4	671	23		11		33		6	495		1	2	4	2
Arizona	14		30	1	172	8		12	4	11		6	163			6	5	
Arkansas	1		12		305	22		6		23		1	174		8	1	1	1
California	438	25	778	103	3991	414	8	310	267	405	52	151	4307	17	171	121	123	64
Colorado	31	5	118	6	747	56	4	13	12	57	37	37	635	2	31	22	14	5
Conn.	89	3	237	36	973	133		104	14	137	5	123	842	7	54	49	35	22
Delaware	5	1	47	4	200	20		3		6	6	10	162		1	5	2	2
Florida	46	5	100	2	1170	94		18	4	51	4	60	1104	5	50	26	9	4
Georgia	11		69	8	876	27		12	1	60		18	834	5	12	9	29	5
Idaho	5	1	13		241	14	2	14	8	25	6	4	233	1	7	7		
Illinois	261	10	388	97	2979	416	21	191	35	368	15	229	3429	20	147	88	115	68
Indiana	126	2	151	20	1304	130	5	142	8	147	11	115	1119	4	50	47	39	6
Iowa	40	5	121	8	1990	116	2	54	30	151	33	116	1298	1	29	46	24	11
Kansas	7	3	50	5	831	24	2	19	2	43	6	60	546		14	25	8	2
Kentucky	18	2	50	3	1100	109		31	12	118	10	73	973		18	20	20	5
Louisiana	16		22	5	807	43	3	34	6	54		20	663	1	18	6	21	1
Maine	26	2	108	8	551	50	1	17	3	62	10	127	537	8	23	43	10	7
Maryland	54	2	118	15	1347	80	1	42	2	40	17	76	915	5	38	27	43	7
Mass.	222	9	516	57	2733	266	5	69	31	270	29	417	3208	21	69	139	99	57
Michigan	135	7	376	67	3077	271	4	198	91	323	39	399	3652		115	175	73	20
Minnesota	54	2	97	6	1651	112		47	10	85	11	85	923		62	39	33	8
Miss.	1	1	18		542	18	1	4		13		3	384		1	6	6	1
Missouri	79	5	272	20	2398	151	5	86	18	149	18	121	1669	8	79	38	67	13
Montana	7	1	27	1	241	29		22	4	19	6	9	186	4	3	7	1	2
Nebraska	23	5	80	3	1024	57	1	11		60	5	23	801	1	16	13	19	
Nevada	6		16	3	59	21		2	2	8	1	4	76		2	2	1	2
N. Hamp.	10	1	48	5	413	34		13	5	19	6	36	377	3	11	14	9	5
N. Jersey	280	8	626	75	2928	360	5	100	64	255	32	253	2360	20	97	98	109	58
N. Mexico	1		22	1	88	8				10	1	1	81					1
New York	727	26	1563	282	7456	1214	23	438	65	636	70	690	6642	64	306	252	303	137
N. Ca'lina	19	6	77	2	832	88	1	16	7	61	1	54	935		11	22	3	4
N. Dakota	5	1	26		349	19		1	2	22	7	12	271		7	9	3	1
Ohio	250	7	381	74	3609	352	9	319	26	295	58	348	3255	17	141	104	117	39
Okla.	17	3	73	6	823	50	1	8		62	2	6	628	4	4	14	8	2
Oregon	16	2	54	8	614	54	1	37	18	55	30	15	541	8	41	15	12	1
Penn	437	21	886	103	5536	877	7	394	84	602	78	514	4059	53	270	172	232	73
Rh. Isle.	37	2	101	14	513	79	1	79	1	52	4	56	402	4	20	19	11	11
S. Ca'lina	14	2	40	1	670	42		22		32		20	537		1	14	10	4
S. Dakota	5	1	30		378	41		14	7	39	4	19	261		3	6	12	
Tenn.	20	6	48	7	878	32		33		73	2	35	751	1	15	12	20	4
Texas	17	19	278	18	3173	203	4	142	1	187	3	52	2605	6	59	40	45	9
Utah	11		20	5	278	9		10	10	27	3	27	213		10	10	5	1
Vermont	15		41	5	214	27		4	2	33	2	40	216		6	18	12	7
Virginia	27	9	108	11	1717	86	4	80	1	93	2	90	1617	2	23	25	28	4
Wash.	10	5	53	6	396	44	1	31	6	27	7	20	368	1	16	6	11	
W. Va.	23	4	43	6	686	84		29	8	83	1	41	608	1	32	20	14	4
Wisconsin	76	2	175	13	1278	117	7	70	35	124	16	107	885	3	37	36	25	12
Dist. of C.	40	4	124	12	833	56	1	50		67	6	44	935	3	25	11	34	11
Totals	3789	227	8671	1136	65642	6580	130	3362	906	5572	656	4773	57875	300	2154	1866	1824	703

Equipment - - - Development

U. S. Rubber Introduces Eger Type 2-Piece Valve



EGER type interchangeable valves

A two-piece tire valve, known as the Eger type interchangeable valve, has been introduced by the United States Rubber Company. The new valve permits the replacement of a valve in a tube to meet any valve requirement, it is claimed, and permits a dealer to carry only a limited stock of heavy service tubes.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

NEW LITERATURE

The Automotive Daily News will publish announcements of new literature of interest to its readers. The booklets may be obtained free of charge by ordering them by number from the Technical Editor, Automotive Daily News.

A-34—Battery, parts and shop equipment catalogue.

A-35 — Catalogue speedometer parts and testing equipment.

A-36—Catalogue Carboloy tipped tools.

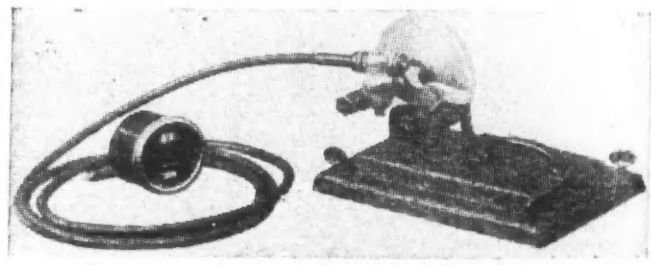
IDEALE HOT WATER HEATER

The Ideale hot water heater has just been announced by E. A. Laboratories, Inc., Brooklyn, N. Y. It is available in two models, which, it is claimed, suffice to equip all cars.

The capacity of the heater is two pints. A tubular core is used with the tubes set at an angle.

The heater is operated by an electric motor. A two-speed switch permits regulation of heat by the driver and a thermostatic control prevents water flowing into the radiator until a predetermined temperature is reached. The two-door shutters are adjustable.

Stewart Speedometer Testing Device



Stewart Speedometer Tester

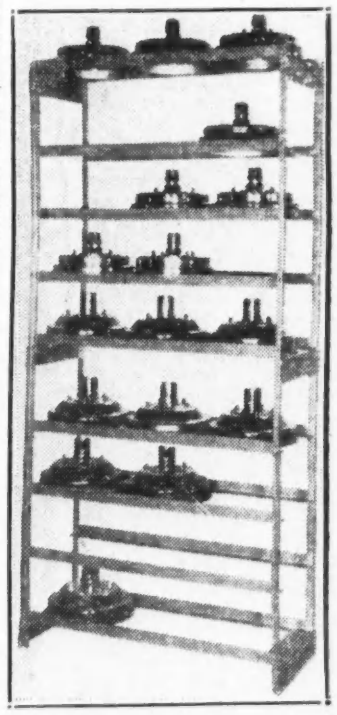
A mileage and speed tester for determining variations in speedometer reading due to changes in tire size, axle ratio, etc., has been developed by F. W. Stewart Manufacturing Corporation, Chicago, Ill.

In use, a rear wheel of the car is jacked up and the small wheel of the tester is placed in contact with the center of the tire tread and the test head held in comparison with the speedometer on the car, with the drive in high gear.

Two New Lyon Racks For Ford Brake Drums

Two new brake-drum racks have been announced recently by Lyon Metal Products, Inc., Aurora, Ill., for the Ford A and AA models.

The former has a capacity of twenty-seven drums, and is priced at $11.50.



LYON F-16 brake-drum rack

The second rack is designed to store twelve model AA drums. Price, $8.

Both racks are made of angle steel.

REGISTRATION STATISTICS, JUNE, 1931

Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. county, city or town lists, or lists of onwers in any given section, may obtain these by addressing any of these three companies

Mississppi, Nevada, New Mexico, New York, Oregon, Tennessee and Texas

will be found on Pages 10 and 11

States	Lincoln	Marmon	Nash	Oakland	Oldsmobile	Packard	Peerless	Pierce-Arrow	Plymouth	Pontiac	Reo	Studebaker	Whippet	Willys	Willys-Knight	Miscellaneous	Totals
Alabama	1	2	6	3	2	7			23	26		10	1	29			1,415
Arizona		-	17	2	13	1		1	4	9		15		13	2		509
Arkansas			11	1	4	1			14	16	1	9		4			616
California	42	15	281	87	182	103	2	43	112	289	35	502	2	254	58	20	13,772
Colorado	1	4	44	17	38	7		1	48	75	3	60	8	62	1	3	2,204
Conn.	6	11	88	41	93	57		21	43	197	13	96		53	10	2	3,594
Delaware	1	1	11	5	16	6		2	6	30		7		4	2		565
Florida	7	15	35	15	26	12		6	45	137	16	45	2	46	3		3,162
Georgia	1	5	22	4	29	4		8	27	48	3	53	1	13	1		2,195
Idaho	1	1	11	5	11	2			24	15	2	18	2	20	3		696
Illinois	33	8	192	74	560	130	24	26	145	585	22	303	1	213	34	14	11,241
Indiana	2	23	52	22	140	13		5	84	181	9	143	3	138	3	7	4,251
Iowa	6	5	70	25	149	13		1	160	247	10	93	8	188	5	1	5,056
Kansas		7	21	18	31	5			23	76	5	37	1	52	4	1	1,928
Kentucky	4	17	18	13	21	7	1	2	97	73	10	55	7	92	8	2	2,989
Louisiana	5	5	46	2	28	3	1	3	17	34	1	26		19	3	2	1,915
Maine	4	4	61	20	62	11	1	1	72	120	4	74	1	53	3	1	2,085
Maryland	7	3	90	33	48	26	10	9	55	167	10	63	4	49	7	2	3,412
Mass.	19	20	303	69	236	76	6	35	148	499	42	247	1	138	33	9	10,098
Michigan	18	29	91	62	330	86	1	6	295	423	35	115	2	130	6	2	10,653
Minnesota	3		37	17	99	13		4	155	219	5	64	4	144	9		3,998
Miss.			15		4	2			9	23	1	19	1	14			1,087
Missouri	11	16	117	51	138	19	2	17	126	283	15	115	11	109	10	6	6,242
Montana		1	16	7	13			1	21	36		8	2	24	2		700
Nebraska	2	3	33	7	43	10		1	65	89	2	56	1	76	11		2,541
Nevada		1	2		1	1			11	3		14		3			241
N. Hamp.	3	4	41	16	46	7			40	59	3	29		39	2		1,298
N. Jersey	30	24	265	96	343	94	5	48	91	411	26	260	3	167	31	4	9,626
N. Mexico			3		3				3	4	1	3		1			232
New York	101	71	682	227	811	268	13	91	395	1112	101	807	18	591	111	25	26,318
N. Ca'lina			6	3	35	4		2	36	61	4	16		27	3		2,336
N. Dakota	1	1	13	3	10				32	41	3	9	3	33	5		889
Ohio	18	49	216	102	324	66	14	29	416	607	29	273	14	381	57	7	12,003
Okla.	1		12	9	15	6		2	46	91	2	19		5	15		1,934
Oregon	4	7	28	2	32	15		2	30	51	2	52	1	21	4		1,774
Penn.	33	50	372	148	497	125	15	46	403	758	40	419	11	517	87	19	17,938
Rh. Isle.	3		39	14	29	11	3	11	19	98	17	30		33	6		1,719
S. Ca'lina	1		3	2	16	3			24	35	2	10		7			1,512
S. Dakota		1	7	6	37				35	30	2	15	3	16	1	1	974
Tenn.	1	2	17	3	29	2		1	23	32	4	42		24	1		2,118
Texas	4	13	69	17	51	34		14	138	213	23	134	8	90	12	5	7,686
Utah		2	15	5	13	2			3	17	1	11	1	10	1		720
Vermont			29	9	23	4			26	35	3	18		37	2		828
Virginia	2	9	32	25	52	16		3	54	174	2	55	2	43	3		4,399
Wash.	1		14	12	35	5	1	1	28	45	5	55	1	46	3		1,260
W. Va.	5	1	23	19	40	8			84	103	11	40		91	2	1	2,120
Wisconsin	4	4	149	34	102	24	2	3	97	224	11	102	5	112	12	3	3,906
Dist. of C.	6	7	47	18	66	25		6	30	107	2	78		28	6	1	2,683
Totals	392	441	3772	1370	4926	1334	101	452	3882	8208	538	4724	133	4259	562	138	201,438

OIL RESERVOIRS IN NEW UNIVERSAL JOINT

A universal joint consisting of two forked members and two ring members which are held together by a crimped shroud has been placed on the market by Automotive Corporation of America, Baltimore, Md.

The feature of the new unit is the method employed for its lubrication. An oil reservoir is formed by grooves cut in the ring members, in addition a reservoir is provided in one of the forked members. Intercommunication between the reservoirs is provided for the oil which is used as a lubricant.

SERVICE SHOP OPENED

Waterloo, Ia., July 28.—The H. & H. Service Shop has been opened at 905 4th St. East by A. S. Halls and W. J. Hulse. The firm will do a general car servicing and repairing business, also handle accessories.

Conditions in French Body Building Industry

Many Small Manufacturers Pushed Out of the Field Recently by Decrease in the Demand for Custom Bodies; Body Builders Export 10 Per Cent. of Their Output; Trend Seems to Be Away From the Purchase of Custom Jobs

By H. C. SCHEUTTE
Assistant Automotive Trade Commissioner in Europe

MASS production of standard bodies for automobiles and the precipitate drop in sales of all types of automotive vehicles in France during the latter part of 1930 and the first few months of 1931, owing to the general economic depression, are responsible for many small body building companies going out of business, either through voluntary liquidation or through bankruptcy, since the fall of 1930. Producers with inadequate equipment and with a small turnover are finding it increasingly difficult to compete with the larger concerns that are able to steadily effect improvements in their products, provide themselves with the latest machinery, and to lower their prices through quantity production.

According to the latest published list of the French Syndicale Chamber of Automobile Body Manufacturers, some 200 firms or individuals are directly engaged in the manufacture of motor vehicle bodies in France; another 140 are listed as producers of body hardware, paints, supplies, body accessories and the like. This list is on file in the Automotive Division of the Department of Commerce and is available, upon application, to interested American firms. In the face of the adverse conditions now prevailing, only the largest firms find it profitable to continue in business.

Out of the 200 firms that claim to be building bodies in France, not over twenty build one body a day or more. The annual production of special passenger car bodies amounts to about 7,000 a year, of which 5,000 are destined for medium and low priced cars, and 2,000 are de luxe jobs for a higher price chassis. Many firms build only a few bodies a year, their shops often consisting of a makeshift shed in the back yard of a residence in one of the many industrial suburbs around Paris. The majority of the factories are located in the Paris district; a few are in Lyons. A number of small truck body builders are scattered throughout the provinces, supplying bodies for local purchasers of trucks that are adapted for special uses in transport, mining, or agricultural activities.

There has been a particularly big drop in the demand for de luxe custom-built bodies; a number of the firms formerly engaged in their manufacture have gone over entirely or in part to the production of commercial bodies. At present three firms remain leaders in the de luxe field—namely, Kellner, Henry-Binder and Fernandez. From a standpoint of size, the Societe Parisienne de Carosserie Automobile and Carosserie Nanessius are the most important; but these firms specialize in medium price passenger car bodies rather than bodies of the de luxe type. In the commercial type field, a half dozen important firms operate—Breteau, David, Da la Gache & Glassmann, Million-Guiet and Paquette. Other important firms (most of them of medium size) in the French body-building industry are Franay Fils, Lavocat et Marsaud, Macquet et Galvier, Letourneur et Marchand and Saoutchik.

Present Status of Production

The body-building business in France has slumped about 50 per cent. during the present depression, but a number of manufacturers state that orders increased somewhat during April, 1931. Kellner, for example produced about 400 passenger-car bodies in 1929; production of this company during 1931 may not exceed half that number. The Kellner factory comprises about 30,000 square meters (322,900 square feet) and employs about 550 workmen at the present time. Henry-Binder (Aboucava et Cie.) now has an output of ten to twelve bodies per month, as compared with double that number two years ago. With less work in the shops, the time of delivery has been considerably speeded up. It used to take four to six months to get delivery of a custom-built passenger-car body after the order was placed; at present body builders promise delivery in two or two and a half months.

The largest French body-building concerns employ about 300 workmen each, while other important firms employ from fifty to seventy-five workmen. Manessius may have employed more than 300 at one time, perhaps 700 or 800 at peak production; but this concern has reorganized and plans to build chiefly truck bodies. Although still rated as one of the largest body builders, they have not yet gotten into swing following their reorganization a short time ago.

Modern machinery is used to a certain extent in the body departments of French motor car companies and in the shops of a few of the largest of the specialized body builders, but the greater number of the independent shops are too small to warrant the expenses of much machinery. Some of the smaller firms buy stampings, but many bodies are still pounded out by hand. The average wages paid to body workers range from 5 francs to 8.50 francs per hour, or from 20 cents to 34 cents, depending upon the type of labor.

Exports, Price Ranges and Types

About 10 per cent. of the de luxe bodies made in France are exported, the bodies being fitted to the chassis in this country and then shipped abroad, chiefly to European countries, such as The Netherlands, Switzerland, Spain, Belgium and the Balkans. Some are shipped also to the French colonies in North Africa. A number of firms, particularly Kellner, build special bodies for European purchasers of American cars.

Prices of de luxe bodies range from 20,000 to 100,000 francs ($800 to $4,000) but prices in general have been gradually decreasing during the past two years. For example, one of Kellner's most popular types of body, built on the chassis of one of the most expensive American cars, costs 50,000 francs (around $2,000). This, of course, includes the 6 per cent. luxury tax, which is subtracted if the complete job is exported. An appreciable though limited number of French buyers of medium and even low-priced cars have special bodies constructed. Prices for these are in proportion, and range from $500 to $1,200. Prices of truck bodies vary as much as passenger models, but for the more standard types $300 to $1,000 is the usual cost.

Of the total number of passenger cars in circulation in France, perhaps 4 per cent. have custom-built bodies. If the three leading-low-price cars—Citroen, Renault and Peugeot (practically all of which have standard bodies)—are subtracted, the ratio of custom-built bodies to standard bodies on the rest will amount to about twelve out of 100. If only the high-price cars are taken into consideration, the number of specially built bodies will exceed 60 per cent. of the total.

Such automobile manufacturers as Citroen, Renault, Peugeot, Mathis, Hotchkiss, Talbot, Panhard-Levassor, Delage and others build their own bodies. The Citroen Company has been making the bodies of an American company under license since 1924, and in recent years the other two large producers, Renault and Peugeot, have been buying their stampings from the German branch of this same American company. The rest of the companies have their own body departments purchase their stampings from the larger body firms in France.

Trend Toward Standardization and Lighter Bodies

With a few minor exceptions, the body design, material used and types of bodies produced vary little from the practice in the United States. There is a strong trend toward further standardization and the construction of lighter bodies. A feature in some French custom bodies is the elimination of the heavy molding so prominent in the past. Lines have been gradually improved, and some of the awkward-looking hinges on the outside of an otherwise graceful-looking body have now been placed inside the molding.

In the main, however, very little change has occurred in the type of bodies built during the last two or three years, and there are few developments of particular interest. Custom builders are having an increasingly difficult time competing with standard jobs. They anticipate little change, considering the present time inappropriate for expensive experimenting or for the launching of new body types.

American Influences

American engineering practices have influenced French body construction but not design. Some details of equipment have also been taken from American practice. The greatest influence that American methods have had, however, has been in the installation of labor-saving devices and machinery in the various body-building departments of local automobile concerns. Machinery for automobile plans has been imported from America, but all materials entering into the construction, with the exception of a few specialties, are purchased locally.

Only Citroen has all-metal bodies, the rest of the standard bodies being a combination of wood, steel and aluminum. Aluminum, of course, because of its high cost, is not used to a great extent. Among the independent body builders, Million-Guiet makes an inexpensive, light-weight, all-metal body that has attained a certain measure of popularity. This body was invented by Viscaya, the auto racer, and is being used on cars like Hotchkiss and Talbot.

Color schemes on French bodies vary little from American, except that black is more widely used. Blues and striking colors are also popular.

CUMULATIVE NEW PASSENGER CAR

This table is repeated f comparative purposes only.

States	Auburn	Austin	Buick	Cadillac	Chevrolet	Chrysler	Cord	De Soto	De Vaux	Dodge	Durant	Essex	Ford	Franklin	Graham	Hudson	Hupmobile	La Salle
Ala., '30			50	6	755	22		15		25		15	990		24	12	15	6
Ariz., '30			41	2	206	15		19		41	14	11	333	2	10	2	10	3
Ark., '30	1	1	21	1	280	14		9		23	6	14	430		7	5	2	2
Cal., '30	80	1	568	103	3299	546	20	438		432	372	275	7534	48	305	152	153	80
Col., '30	4		97	4	782	59	2	29		75	32	51	1040	5	46	36	21	15
Conn., '30	36		235	40	795	171	2	116		160	23	156	1592	85	93	72	99	48
Dela., '30	1		46	11	189	35	1	5		5	11	13	348	1	7	6	10	5
Fla., '30	4		73	5	675	74	1	28		37	5	47	1239	6	46	32	14	10
Ga., 1930	8	3	57	5	740	28		25		42	5	16	1240	6	17	17	18	6
Idaho, '30	1		30		256	16	1	8		25	21	19	381	1	9	9	4	
Ill., 1930	68		656	61	3117	490	26	258		449	71	314	6752	58	232	167	217	88
Ind., '30	36	4	176	11	1324	140	11	130		173	30	165	2568	7	61	60	49	20
Iowa, 1930	27	1	150	10	2670	128	2	41		219	87	107	3293	3	93	68	53	16
Kan., '30	3		82	3	1005	53		34		80	6	45	1270	1	16	53	17	1
Ky., '30	11	4	49	6	935	89		43		100	26	76	1570	3	20	36	29	10
La., '30	5	2	47	3	643	57		36		67	6	17	1073	1	11	15	17	3
Me., '30	6	1	101	10	535	88	1	41		89	33	151	1072	3	25	46	25	14
Md., '30	12		131	7	1066	83	1	24		69	18	99	1429	4	72	31	45	11
Mass., '30	38		386	74	1799	280	5	104		361	52	451	5301	35	140	157	140	76
Mich., '30	13	2	304	92	2463	214	6	163		218	90	347	8432	6	165	189	105	55
Minn., '30	7		93	6	1725	139	3	43		92	23	69	2789	2	93	35	53	14
Miss., '30	1		42	1	765	59		27		34	3	9	1106		16	8	12	3
Mo., '30	18	1	157	19	1893	140	8	60		159	31	100	2857	8	114	55	51	25
Mont., '30	5		27	3	270	26	2	29		22	13	26	369	6	4	9	14	7
Neb., '30	3	1	86	4	1310	75	3	27		97	25	29	1773	2	26	10	29	2
Nev., '30	1		7	1	49	7		4		9	4	3	69		2	3		
N. H., '30	10		42	3	270	38		19		30	8	46	573	2	17	13	18	3
N. J., '30	117		578	92	2101	423	8	164		281	98	282	4897	32	187	154	158	76
N. M., '30	1		30		165	11		6		8	1	5	202	1	3	4		1
N. Y., '30	267	1	1165	201	3920	798	20	315		452	116	542	10381	101	367	278	263	130
N. C., '30	1		83	4	910	81	1	26		86	2	46	1599	2	30	37	10	1
N. D., '30	1		23	1	590	47		8		35	23	23	831	1	17	12	2	
Ohio, '30	67	3	419	50	3126	401	14	302		358	120	407	6808	32	220	193	229	57
Okla., '30	4		137	7	1443	63	2	38		143	19	29	2115	2	23	21	10	11
Ore., '30			68	9	431	37	1	29		48	59	26	760	6	31	16	6	8
Penn., '30	112	7	997	96	4723	1094	16	496		720	201	591	9548	77	468	317	347	113
R. I., '30	8		71	6	332	70	1	66		50	10	44	604	4	25	15	15	8
S. C., '30			34	1	389	16		23		20	2	26	799	1	5	15	9	
S. D., '30	3		39	1	645	54		10		61	25	42	825	1	16	13	19	
Tenn., '30	3	11	68	7	850	58	1	32		75	12	48	1453	4	27	22	21	11
Texas, '30	14		377	22	3131	184	3	189		256	76	52	5140	11	83	33	57	27
Utah, '30	9		28	5	324	34	2	31		42	45	35	586	2	33	17	9	3
Vt., '30	6		38	4	238	50	2	11		33	4	51	424	2	33	16	14	7
Va., '30	4		150	8	1498	100		45		100	18	82	2116	5	36	25	47	12
Wash., '30	12		143	6	436	71	2	62		54	68	31	1129	5	17	23	45	6
W. Va., '30	6		60	2	805	63	3	35		129	29	69	1265	6	60	30	21	8
Wis., '30	19		208	14	1666	168	2	71		170	48	160	2591	14	90	71	36	6
D. of C., '30	11		68	7	431	32	1	18		33	13	46	1078	3	39	22	32	15
Totals, '30	1064	43	8538	1034	57970	7141	174	3792	*	5287	2004	5308	112574	607	3487	2632	2 570	1023

*Not in production

Southeastern Parts Jobbers Stage Summer Meeting

SIGNAL MOUNTAIN HOTEL, Chattanooga, Tenn., was the scene of the summer meeting of the Southeastern Parts Jobbers' Association. Registration lists on the first day of the meeting showed an attendance of thirty jobber members and their wives, and seventy-five manufacturers or their representatives and their wives, giving a total registration of 105. This was brought up to a total of 125 by arrivals on the second day.

Business sessions were held during the mornings of the two days, while the afternoons were devoted to entertainment.

The first day's meeting was called to order by President J. C. Rogers of Automobile Piston Company. Henry Hart of Hart's Automotive Parts read a letter of welcome from the mayor of Chattanooga.

Talks and discussions followed, included in which were Ira Bernstein, Thermoid Rubber Company, "Effective Use of Missionary Men"; G. N. Patrick, Patrick's, Inc., "Shall We Operate Peddling Wagons?"; S. M. Stewart, Moore & Stewart, "The Most Profitable Lines."

At the conclusion of the consideration of these subjects, it was announced that the association golf tournament would be held during the afternoon. In this, first prize went to E. J. Countz of Tun-Sol Lamp Works; second prize to V. A. Scully, Chicago Rivet and Machine Company; third prize to the foursome including Bert H. Kaple, Brunner Manufacturing Company; J. C. Rogers, Automobile Piston Company; E. C. Sharp, Stanford Bothers, and J. C. Jordan, United States Asbestos Corporation. Fourth prize went to President Rogers. During the afternoon a lawn bridge party for the ladies was also given, and prizes were awarded by Automotive Boosters Club, Southeast No. 6. The day's program was concluded with a dinner dance.

On the business program were S. M. Rees of Wombwell Automotive Parts Company, "Car Dealer Competition"; M. B. Fox, Black & Decker Manufacturing Company, "Equipment Merchandising"; Carlyle Fraser, Genuine Parts Company, "Sales Control Figures," and Otto Hassler, president of Chattanooga N. S. P. A. Maintenance Division, "As Our Customers See Us."

After a short talk by C. M. Burgess, president of the N. S. P. A., on the benefits derived from sectional jobbers' organizations, votes of thanks were tendered J. C. Rogers, president; Henry Hart, vice-president, and Ray O'Keefe, secretary-treasurer, respectively, of the Southeastern Parts Jobbers Association, for their splendid work in making the summer meeting a successful one.

Atlanta Jobbers Sponsor Parts and Equipment Show

Under the co-operative sponsorship of seven automotive jobbers of Atlanta, Ga., the Atlanta parts and equipment show was held in the Atlanta Auditorium.

The seven sponsors were American Gear Company, Alexander Sewald Company, Beck & Gregg Hardware Company, King Hardware Company, Southern Bearings and Parts Company, Genuine Parts Company and Automobile Piston Company.

The entire auditorium was filled with the exhibitions of 128 manufacturers, approximately 50 per cent. of whom were makers of automotive parts and the others makers of tools and equipment.

A total attendance of 1,550 is reported out of an invitation list of 2,000. Fifty-five jobbers from outside of Atlanta registered eighty-eight representatives during the three-day show.

The Atlanta jobbers report that results were all that could be desired for the first effort of this kind, and it is their hope to have a still better show next year, which they plan to hold at the time of the meeting of the Southeastern Parts Jobbers' Association and Southern Automotive Jobbers' Association.

REGISTRATION STATISTICS, JUNE, 1930

Figures for June, 1931, will be found on Pages 8 and 9

States	Lincoln	Marmon	Nash	Oakland	Oldsmobile	Packard	Peerless	Pierce-Arrow	Plymouth	Pontiac	Reo	Studebaker	Whippet	Willys	Willys-Knight	Miscellaneous	Totals
Ala., '30	1	4	7	4	19	9			32	3	5	15	9	10	2		2,055
Ariz., '30		5	22	5	12	10	2	1	23	16		42	4	9	6		866
Ark., '30	2		9	3	4	1		3	21	8		10	2	2	1		882
Cal., '30	37	49	331	135	186	323	16	58	284	255	72	560	24	100	106	49	16,991
Col., '30	2	21	58	12	38	26	1	3	78	47	5	48	23	44	11	3	2,718
Conn., '30	13	30	139	59	74	125	7	20	103	160	35	116	12	39	30	17	4,702
Dela., '30	1	1	3	5	4	17		2	22	29		9	3	6	1	1	798
Fla., '30	2	13	23	12	27	16		3	58	52	12	10	10	10	8	2	2,554
Ga., 1930	3	2	17	8	37	19			38	22	1	26	5	20	3	3	2,437
Idaho, '30	1		16	6	8	1			31	18	1	16	9	5	1		894
Ill., 1930	46	72	405	97	446	323	13	42	543	409	38	422	82	186	88	63	16,339
Ind., '30	7	67	113	42	142	46	4	5	238	171	15	150	30	71	15	24	6,105
Iowa, 1930	9	19	128	27	166	45	1	3	344	213	13	123	82	148	16	4	8,309
Kan., '30	1	11	48	28	44	9	6	1	69	100	9	51	16	46	23	2	3,133
Ky., '30	4	22	30	17	26	24	1	5	173	55	8	34	34	57	9	1	3,507
La., '30	2	5	66	17	18	29		1	43	45	3	29	6	11	8	3	2,289
Me., '30	2	9	88	38	74	49	12	2	170	131	9	84	20	45	22	4	3,000
Md., '30	4	11	66	32	59	57	1	8	111	98	12	73	36	37	16	24	3,747
Mass., '30	15	56	304	69	181	303	27	46	311	261	48	251	43	110	79	23	11,526
Mich., '30	13	40	92	103	329	203	6	10	512	258	48	187	50	102	31	19	14,867
Minn., '30	3	12	76	37	104	32	1	2	392	181	13	116	67	124	26	7	6,379
Miss., '30	2		52	8	9	4		1	25	22	4	16	6	4	2		2,241
Mo., '30	3	27	112	49	143	70	3	32	190	141	9	63	73	104	23	34	6,772
Mont., '30		5	25	11	9				37	33	4	15	16	13	5		1,005
Neb., '30	2	10	33	12	75	16	2	2	154	65	5	71	33	62	19	2	4,065
Nev., '30			4	1	4				5	2		6		1	1		183
N. H., '30	1	11	44	7	25	16		3	52	30	13	20	6	16	6	3	1,345
N. J., '30	15	56	347	117	364	377	36	77	266	223	33	309	31	134	123	50	12,206
N. M., '30		2	2	1	5				8	6		6	2	2	4	2	478
N. Y., '30	69	124	684	197	524	641	31	103	649	498	66	581	123	301	185	110	24,203
N. C., '30	3	5	19	10	29	15	2	2	74	49	3	21	13	22	3		3,189
N. D., '30		3	43	14	21	1			78	52	3	21	39	53	9	3	1,954
Ohio, '30	40	97	294	119	386	262	55	36	698	438	47	288	126	244	112	35	16,083
Okla., '30	2	7	40	26	40	34		7	95	93	2	40	40	38	6	4	4,541
Ore., '30		7	23	14	27	21		5	49	55	8	41	7	15	7	2	1,816
Penn., '30	37	98	576	289	580	515	60	72	1081	626	74	564	155	382	143	78	25,253
R. I., '30	2	2	44	17	22	30	12	9	49	51	17	27	3	19	15		1,648
S. C., '30	1	1	9	2	10	9			16	16	2	8	3	2	1		1,420
S. D., '30		5	24	6	87	7	1		81	37	2	44	24	28	3	3	2,106
Tenn., '30	3	5	23	9	28	22	1	9	63	31	5	61	24	22	8	6	3,023
Texas, '30	9	31	88	37	77	65	4	23	274	183	45	133	50	77	28	6	10,785
Utah, '30		7	17	16	21	12		1	22	19	3	23	4	2	2	3	1,357
Vt., '30	2	3	36	14	16	26	1	4	63	35	11	12	16	31	5	2	1,210
Va., '30	1	18	28	31	49	42	4	1	132	123	7	44	27	52	11	23	4,839
Wash., '30		5	37	14	39	29		4	89	44	4	81	20	34	22	4	2,536
W. Va., '30	2	23	41	32	40	28		3	118	91	5	46	45	76	16	5	3,162
Wis., '30	1	19	199	60	138	50	10	15	330	207	21	146	69	122	22	15	6,764
D. of C., '30	5	5	21	29	57	48	12	4	58	71	3	43	6	6	13	6	2,236
Totals, '30	368	1025	4906	1898	4823	4007	332	628	8352	5773	743	5102	1528	3044	1296	645	260,518

FEDERAL GASOLINE TAX WOULD COST MOTORISTS $150,000,000 A YEAR

New York, July 28.—As organized motordom is preparing to vigorously oppose a Federal tax on gasoline, T. M. Hentges, vice-president of the New York Automobile Club, announced today that a tax of 1 cent a gallon would cost car owners of the country an additional $150,000,000 a year.

Mr. Hentges bases his statement on the fact that 15,761,400,000 gallons of gasoline were consumed during 1930.

He said that a Federal tax has been proposed by some Treasury officials and members of Congress as a means of raising funds in view of the pending Federal deficit.

With regard to the attitude of organized motordom toward the proposal, Mr. Hentges quoted a resolution passed by the American Automobile Association at its twenty-ninth annual convention, recently held at West Baden, Ind., as follows:

"Whereas the motor vehicle is today tthe most heavily taxed property in this country, the American Automobile Association is unalterably opposed to a Federal tax on highway transport, whether through an excise tax on motor vehicles, accessories or parts, or through a sales tax on fuel, or through a license fee for motor vehicles or drivers."

TRENTON TO REGULATE STATION EQUIPMENT

Trenton, N. J., July 28.—Regulations designed to secure adequate safeguards against fire at Trenton gasoline stations having overhead tanks have been embodied in an ordinance which will shortly be considered by the City Commission, it was revealed at a session of the commission.

The ordinance is a general fire-prevention measure. Its features for the safety or service stations figured in a discussion of gasoline station permits at the meeting. Harry F. Kemler, deputy director of public safety, originated the measure. It is now before the fire-prevention committee of the Chamber of Commerce for the opinion of manufacturers and industrial leaders of the city as to the efficacy and practicability of the ordinance's terms.

Chevrolet's Job

AMONG the high spots of the automotive year of 1931 certainly must be classed the achievement to date of the Chevrolet Motor Company. In a drab and, to many, unhappy year, Chevrolet, holding its production close on demand, has managed to show a rising output curve month after month, with the single exception of February, which fell slightly short of the January total. Just as a matter of interesting record, we shall quote the figures for Chevrolets built this year by months: January, 70,766; February, 67,318; March, 79,603; April, 106,096, and May, 113,852.

Some of us remember three years ago, when we were invited to be the guests of the Chevrolet Motor Company at General Motors Proving Ground, near Detroit, to witness the unveiling of the first six-cylinder line. Richard H. Grant, then vice-president of the company in charge of sales, made the christening address. In the course of his remarks he said that his company felt that it was offering the new Chevrolet Six at a very reasonable price, the maximum in transportation. People might care to pay more for their cars, but the extra price would be paid for greater luxury, for more of what we may term the esthetics of motoring.

From the remarkable record of this company in the difficult year of 1931 we can only gather that a great many hundreds of thousands of people in this country and abroad agree with Mr. Grant. And, obviously the Chevrolet sales organization is to be congratulated on having the keenness and the enthusiasm that have driven home Mr. Grant's point to so many buyers. That old saw about building a better mouse trap and having the world beat a path to your wilderness retreat is only true if you have good salesmen on the job, backed by a keen advertising department.

At any rate we salute the Chevrolet organization for one of the outstanding jobs of 1931 to date.

—From a recent editorial in the Automotive Daily News

CHEVROLET
for Economical Transportation

The swing to Chevrolet proves that the public wants a six

Confident that the motoring public would quickly accept a low-priced, economical six, Chevrolet, in 1928, announced a 6-cylinder car. The huge number of Chevrolets sold during 1928, '29 and '30 prove the wisdom of this step. And since its introduction last November, the present Chevrolet Six, month after month, has been leading all other cars in retail sales.

This swing to Chevrolet can be traced largely to the public demand for performance of a type that nothing less than six cylinders can provide—for nothing less than a six can give six-cylinder smoothness, quietness and flexibility.

Yet today's Chevrolet Six makes its appeal to buyers on more than performance alone.

It offers proved design and fine manufacture—those two great essentials of long life and enduring owner satisfaction.

It offers Fisher bodies that are so smartly styled as to have won widespread popularity and admiration.

It offers unsurpassed economy of operation, for no automobile—regardless of the number of cylinders—costs less for gasoline, oil, tires and upkeep.

Buyers today, more than ever before, are finding it wise to choose a six. And because Chevrolet is not only the lowest priced six, but one of the lowest priced cars on the market, Chevrolet dealers everywhere are continuing to enjoy a truly exceptional volume of business on a highly profitable basis.

CHEVROLET MOTOR COMPANY
DETROIT, MICHIGAN